GRELL

$42^{ème}$ Réunion du Groupe des Registres et des Épidemiologistes de Langue Latine

24-25-26 mai 2017

BRUXELLES

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Belgian Cancer Registry

GRELL 2017 - Programme

Wednesday May 24th, 2017
Workshop - TNM classification

12:00-13:00: Registration

13:00-13:15: Introduction - Liesbet Van Eycken, Director, Belgian Cancer Registry

13:15-14:00: The UICC-TNM 8th Development, update and future direction for cancer staging.
James D. Brierley, Co-Chair of the UICC TNM Prognostic Factors Project

14:00-14:30: The use of TNM in cancer registries: advantages and difficulties.
Liesbet Van Eycken

14:30-15:00: The role of biomarkers. Hélène Antoine-Poirel, Expert Physician, Belgian Cancer Registry

15:00-15:30: Coffee break

15:30-16:00: The Principles and General rules of TNM classification. James D. Brierley

16:00-17:00: Exercises

17:00-17:30: Examples of use of stage in cancer registries studies
Chairman: Pascale Grosclaude, Director, Cancer Registry of Tarn, France

- **Trends in stage at diagnosis and stage-specific survival for colorectal cancer in the Latin-language countries**
  Veronica Di Carlo, Maja Nikšić, Michel P. Coleman, Claudia Allemani, on behalf of the CONCORD Working Group *Oral 1 // p9*
- **Initiation of colorectal cancer screening in the Flemish region immediately results in more early stage colorectal cancers**
  Isabel De Brabander, Petra Denolf, Sarah Hoeck, Ingrid Palsterman, Annemie Haelens, Inge Truyen, Julie Francart, Liesbet Van Eycken *Oral 2 // p10*

17:30-17:40: Closure of meeting - Julie Francart, Associated Director, Belgian Cancer Registry

19:00: Welcome Cocktail
Sleepwell Hostel, Rue du Damier 23, 1000 Brussels

Thursday May 25th, 2017

08:15-09:00: Registration

09:00-09:15: Opening and Welcome – Michiel Callens, President, Belgian Cancer Registry

09:15-09:45: Summary of Workshop – Liesbet Van Eycken, Director, Belgian Cancer Registry

09:45-10h15: The new Grell: changes and actions and Start of the voting – Emanuele Crocetti, MD, Senior Researcher, European Commission, DG Joint Research Centre

10:15-11:15: Session 1: Quality of data in cancer registration
Chairmen: Eva Ardanaz / Julie Francart

- **Incidence rates and intra-area variability**
  Emanuele Crocetti, Francesco Giusti, Giorgia Randi, Lena Voithenberg, Raquel Negrão Carvalho, Tadeusz Dyba, Carmen Martos, Manola Bettio *Oral 3 // p11*
- **Semi-automated extraction of information from pathology reports: proof of concept**
  Joris Mattheijssens, Antoine Pironet, Kris Henau, Petra Denolf, Nancy Van Damme, Harlinde De Schutter *Oral 4 // p12*
- **Recoding and study of recurrences and progressions of urothelial tumours in Tarragona, 1998-2009**
  Jaume Galceran, Marià Carulla, Alberto Ameijide, David Parada, Montse Sánchez, Lluís Castelló, Yolanda López, Laia Llauradó, Araceli Jiménez, Jàmnica Bigorra *Oral 5 // p13*
- **How can we improve and make more useful the urothelial tumours registration? A proposal for a GRELL collaborative study**
  Laetitia Daubisse-Marliac, Jaume Galceran, Marià Carulla, Alberto Ameijide, David Parada, Pascale Grosclaude, Rafael Marcos-Gragera, Loreto Vilardell *Oral 6 // p14*

11:15-11:45: Coffee break

11:45-13:00: Session 2: Social inequalities and Cancer
Chairmen: Isabelle Konzelmann / Harlinde De Schutter

- **Could mobile mammography reduce social and geographic inequalities in breast cancer screening participation?**
  Elodie Guillaume, Ludivine Launay, Olivier Dejardin, Véronique Bouvier, Lydia Guittet, Pauline Déan, Annick Notari, Rémi De Mil, Guy Launoy *Oral 7 // p15*
- **Cancers in adults with intellectual disability: A descriptive population-based study**
  Brigitte Trétarre, Faiza Bessaoud, Jean-Pierre Daurès, Sarah Habib-Hadef, Daniel Satgé, The CHAID Study Group *Oral 8 // p16*
- **Social Inequities in Breast Cancer Incidence and Mortality: A Population-Based Study in Girona (2000-2013)**
  Aina Roca-Barceló, Rafael Marcos-Gragera, Marta Solans, Raquel Comas, Loreto Vilardell, Marc Sáez *Oral 9 // p17*

- **Establishment of a geolocation national database of the incidence of cancers in France (FRANCIM network)**
  Charlène Daix, Ludivine Launay, Catherine Grin, Olivier Dejardin, Alain Monnereau, Guy Launoy, Le Réseau FRANCIM *Oral 10 // p18*
- **Cancer mortality and deprivation: methodological comparison among the performances of EDI, Italian Index and local indices**
  M. Vercelli, R. Lillini, F. Stracci, V. Brunori, F. Bianconi, E. Guillaume, G. Launoy, A. Izzotti *Oral 11 // p19*

13:00-14:00: **Lunch**

14:00-15h30: Session 3: Descriptive Epidemiology and others
Chairmen: Ana Miranda / Frédéric Calay

- **Cancer incidence in Belgium projected to 2025**
  Geert Silversmit, Evelien Vaes, Liesbet Van Eycken *Oral 12 // p20*
- **Incidence of non-melanoma skin cancer: data of Aracaju Cancer Registry**
  Carlos Anselmo Lima, Marcela Sampaio Lima, Angela Maria Silva, Marco Antonio Prado Nunes, Marcia Maria Macedo Lima, Marceli Oliveira Santos, Divaldo Lyra Junior, Carlos Kleber Alves *Oral 13 // p21*
- **Trends in thyroid cancer incidence and mortality in Navarre, Spain, since 1975**
  Marcela Guevara, Conchi Moreno-Iribas, Emma Anda Apiñániz, Rosana Burgui, Josu Delfrade, Jorge Rojo, María Josefa Urbina, Yugo Floristán, Eva Ardanaz *Oral 14 // p22*
- **Risk of second primary cancers among first primary gastric cancer patients: a population-based study in North Portugal**
  Samantha Morais, Luís Antunes, Maria José Bento, Nuno Lunet *Oral 15 // p23*
- **Use of a case-mix approach to study the trends in the incidence of second primary cancers**
  Boris Gass, Michel Velten, Jérémie Jégu, for FRANCIM, the registries of the K2-France Working Group *Oral 16 // p24*
- **Contribution of the Belgian Cancer Registry to Cancer Screening Programs**
  Julie Francart, Ingrid Palsterman, Annemie Haelens, Isabel De Brabander, Birgit Gielen, Liesbet Van Eycken *Oral 17 // p25*

15:30-16:00: Coffee break and End of the voting

16:00-17:30: Session 4: Survival and Quality of life
Chairmen: Marc Colonna / Geert Silversmit

- **Describing the association between socioeconomic inequalities and cancer survival using an appropriate methodology**
  Aurélien Belot, Laurent Remontet, Bernard Rachet, Olivier Dejardin, Hadrien Charvat, Simona Bara, Anne-Valérie Guizard, Laurent Roche, Guy Launoy, Nadine Bossard *Oral 18 // p26*

- **Existence of cure, estimation of time to cure and cure fraction. A FRANCIM population based study on 27 cancer sites**
  Gaëlle Romain, Olayidé Boussari, Laurent Remontet, Nadine Bossard, Morgane Mounier, Alice Gagnaire, Marc Colonna, Valérie Jooste *Oral 19 // p27*

- **Survival of women with cancers of breast and genital organs in the Basque population, 2000-2012**
  M Jesús Michelena, Leire Gil, Nerea Etxezarreta, Cristina Sarasqueta, Arantza Lopez de Munain, Joseba Bidaurrazaga, Amaia Molinuevo, Nerea Larrañaga, Visitación De Castro *Oral 20 // p28*

- **Prognostic factors associated with breast cancer survival: a population-based study in Cluj County (Romania)**
  Patricia Ignat, Ofelia Șuteu, Florian Nicula, Patriciu Achimaș Cadariu, Radu Ignat, Daniela Coza *Oral 21 // p29*

- **Metformin use and gastric adenocarcinoma survival in Belgium**
  Olivia Lacroix, Evelien Vaes, Harlinde De Schutter, Annie Robert *Oral 22 // p30*

- **Quality of life among long-term colorectal cancer survivors in Flanders, Belgium**
  Cindy De Gendt, Greet De Coster, Tamara Vandendael, Ward Rommel, Hans Neefs, Katia Emmerechts, Elke Van Hoof, Liesbet Van Eycken *Oral 23 // p31*

19:30: **Gala Diner**
Restaurant Chez Léon, Rue des Bouchers 18, 1000 Brussels

Friday May 26th, 2017

8:30-9:45: Session 5: Collaborative studies
Chairmen: Jean Faivre / Jaume Galceran

- **Do differences exist in the reporting of multiple primary tumours among the European population-based cancer registries?**
  Carmen Martos, Francesco Giusti, Lena Voithenberg, Roisin Rooney, Giorgia Randi, Tadeusz Dyba, Raquel Negrão Carvalho, Nicholas Nicholson, Emanuele Crocetti, Manola Bettio *Oral 24 // p32*
- **Which progresses in cancer control in Italy? Joint analysis of incidence, survival and mortality time trends 1999-2010**
  Roberta De Angelis, Carlotta Buzzoni, Mario Fusco, Silvia Rossi, Enzo Coviello, the AIRTUM Working Group *Oral 25 // p33*
- **Pre-diagnostic inflammatory markers and risk of Breast cancer and Non-Hodgkin Lymphoma in two prospective cohorts**
  Eloise Berger, Michelle Kelly-Irving, Marc Chadeau-Hyam, Cyrille Delpierre, Raphaële Castagné
  Oral 26 // p34
- **EPICOST tool: a web-based tool for Italian cancer registries**
  Silvia Francisci, Sandra Mallone, Daniela Pierannunzio, Andrea Tavilla, Anna Gigli, Tania Lopez, Giulia Capodaglio, Stefano Guzzinati, Valerio Dupaquier, Gianluca Ferrari
  Oral 27 // p35
- **Global surveillance of cancer survival (CONCORD-3): the contribution of the Latin-language countries**
  Claudia Allemani, Rhea Harewood, Melissa Matz, Maja Nikšić, Audrey Bonaventure, Veronica Di Carlo, Michel P. Coleman, on behalf of the CONCORD Working Group
  Oral 28 // p36

9:45-10:00: Results of election for the new GRELL Steering Committee

10:00-10:30: Coffee break

10:30-12:15: Session 6: Quality of care
Chairmen: Maria Jesus Michelena / Liesbet Van Eycken

- **Lung cancer survival: treatment modulation factors in Southern Spain**
  Miguel Rodríguez-Barranco, Elena Salamanca-Fernández, Maria Luisa Fajardo, Eloisa Bayo, Jose Expósito, Yoe Ling Chang-Chan, Carmen García, Pamela Minicozzi, Milena Sant, Maria José Sánchez-Pérez *Oral 29 // p37*
- **Age-related differences in treatment and therapeutic delays of patients with lung cancer in the Doubs department**
  Evelyne Fournier, Virginie Champenois, Valérie Quipourt, Anne-Sophie Woronoff
  Oral 30 // p38
- **Association between surgical volume and short and mid-term mortality in lung cancer in Belgium**
  Viki Schillemans, France Vrijens, Cindy De Gendt, Jo Robays, Geert Silversmit, Leen Verleye, Cécile Camberlin, Cécile Dubois, Liesbet Van Eycken, Paul De Leyn
  Oral 31 // p39

- **The volume effect in paediatric oncology: a population based study**
  G. Gatta, R.L. Botta, L. van Eycken, O. Visser, M. Leinonen, H. Comber, N. Dimitrova, M. Zakelj, A. Trama, R. Capocaccia *Oral 32 // p40*
- **Epidemiology and initial management of bladder tumors in Northern France area: a population-based study**
  Plouvier Sandrine, Saint Fabien, Ligier Karine, Massa Jordan, Xavier Leroy, Colin Pierre, Villers Arnauld, Bonnal Jean-Louis, Pasquier David *Oral 33 // p41*
- **Estimation of breast cancer therapeutic waiting time using data routinely collected by a french cancer registry**
  Stéphanie Ayrault-Piault, Noémie Bénéteau, Solenne Billon-Delacour, Anne-Delphine Tagri, Magali Métais, Anne Cowppli-Bony, Florence Molinié *Oral 34 // p42*
- **Pathways of care for adolescent and young adult patients with cancer in France from 2012 to 2013**
  Emmanuel Desandes, Laurence Brugières, Jacqueline Clavel, Brigitte Lacour, French Network of Cancer Registries (Francim) *Oral 35 // p43*

12:15-13:15: **Lunch**

13:15-14:30: <u>Session 7: Childhood cancer</u>
Chairmen: Sophie Couffignal / Nancy Van Damme

- **Pediatric cancer patterns in populations of Mexican ancestry in Mexico and California**
  Paulo S. Pinheiro, Karen E. Callahan, Esther De Vries *Oral 36 // p44*
- **The Italian cohort of adolescents and young adults cancer survivors: a proposal for a collaborative GRELL study**
  Annalisa Trama, Laura Botta, Andrea Ferrari, Giovanna Tagliabue, Paolo Contiero, Anna D'Agostino, Gemma Gatta *Oral 37 // p45*
- **Childhood and adolescent lymphoma in Spain: incidence and survival over 20 years. A population based study**
  Rafael Marcos-Gragera, Jaume Galceran, Marta Solans, Rafael Fernández-Delgado, Ana Fernández-Teijeiro, Rafael Peris-Bonet, the Spanish Childhood Cancer Epidemiology Working Group *Oral 38 // p46*
- **Cancer survival in children and adolescents in last 50 years in Slovenia**
  Vesna Zadnik, Maja Primic-Zakelj, Tina Zagar *Oral 39 // p47*
- **The effect of parental education on survival after childhood cancer**
  Elena Isaevska, Milena Manasievska, Daniela Alessi, Maria Luisa Mosso, Corrado Magnani, Carlotta Sacerdote, Carlotta Buzzoni, Nicolás Zengarini, Franco Merletti, Milena Maule *Oral 40 // p48*

14:30-14:45: Presentation of the next GRELL meeting 2018

14:45-15:00: Poster prize, award ceremony

ORAL COMMUNICATIONS

ORAL 1: Trends in stage at diagnosis and stage-specific survival for colorectal cancer in the latin-language countries

Veronica Di Carlo, Maja Nikšić, Michel P. Coleman, Claudia Allemani, on behalf of the CONCORD Working Group

Affiliation

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Objectives

To examine the distribution of stage at diagnosis and stage-specific cancer survival in 10 Latin-language countries.

Methods

We examined the stage distribution for patients diagnosed with colorectal cancer during 2001-2009 in 10 Latin-language countries that participated in the second cycle of the CONCORD Programme for global surveillance of cancer survival. We included 36 registries that provided data with at least 70% of available information on stage at diagnosis. Cancer registries could submit data on stage with various classifications: TNM (Tumour, Nodes, Metastasis; clinical and pathological), condensed TNM, SEER Summary Stage 2000 and Dukes' stage. We designed an algorithm to summarise all the available data to examine the world-wide distribution of stage at diagnosis, dichotomised as "localised" vs. "advanced". Stage-specific net survival will be estimated, correcting for background mortality by single year of age, sex and calendar year in each country or region. All-ages survival estimates will be standardised with the International Cancer Survival Standard weights.

Results

We will present the stage distribution and stage-specific age-standardised net survival for colorectal cancer in 10 Latin-language countries for which sufficient data on stage were available: Tunisia, Brazil, Ecuador, Puerto Rico, Canada, Belgium, France, Italy, Spain and Switzerland.

Conclusion

These results will offer the widest picture on the availability of data on stage at diagnosis and stage-specific cancer survival in Latin-language countries. Cancer registries in which data on stage at diagnosis are complete and of high quality may offer useful examples for cancer registries where it is still difficult to obtain data on stage.

ORAL 2: Initiation of colorectal cancer screening in the Flemish region immediately results in more early stage colorectal cancers

Isabel De Brabander[1], Petra Denolf[1], Sarah Hoeck[2], Ingrid Palsterman[1], Annemie Haelens[1], Inge Truyen[1], Julie Francart[1], Liesbet Van Eycken[1]

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Objectives

In the Flemish region, colorectal cancer screening through immunochemical faecal occult blood test (iFOBT) was initiated from october 2013 onwards. It allows to detect premalignant adenoma or early stage colorectal cancer when treatment is less aggressive and prognosis is more favourable. In addition to the new cancer diagnoses, the Belgian Cancer Registry collects all anatomo-pathological results of colorectal samples in a central Cyto-Histopathological (CHP) registry. Based on both databases, we aimed to evaluate the impact of organized colorectal screening implementation.

Materials and methods

Global and stage specific colorectal incidence rates were calculated for incidence year 2013 and 2014. Further linkage with screening results from the Flemish screening organization allows to calculate the percentage of screen detected cancers diagnosed after a positive iFOBT. To determine the adenoma detection rate following a positive iFOBT, screening results were linked to the colorectal CHP registry.

Results

In 2014, 21% more colorectal cancers were diagnosed in the Flemish region compared to 2013. More specified, 105% more in situ and 66% more stage I colorectal cancers were diagnosed. Among all in situ and stage I cancers in the invited population for screening respectively 89% and 86% were screen detected. A high adenoma detection rate of 33‰ was also observed after a positive iFOBT.

Discussion and conclusions

Cancer registries play an indispensable role in evaluating the effectiveness of cancer screening programs, not only by evaluating the global effect on incidence rates, but also through identification of screen detected cancers after linkage with screening results. Furthermore, a CHP-registry allows to calculate other performance indicators of the screening progam, like the adenoma detection rate. Initiation of colorectal screening in the Flemish region succesfully manages to detect early stage colorectal cancers or premalignant lesions.

ORAL 3: Incidence rates and intra-area variability

Emanuele Crocetti, Francesco Giusti, Giorgia Randi, Lena Voithenberg, Raquel Negrão Carvalho, Tadeusz Dyba, Carmen Martos, Manola Bettio

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Objectives

Usually the new cases of cancer diagnoses within a specific area are reported in the form of incidence rate. The standard error (SE) of the rate expresses the precision of the estimator. Incidence rates in themselves do not provide any information on the variability in a geographical comparison among different areas. The objective of this study is the evaluation of this issue, and related suggestion for a measure reflecting correctly this variation.

Methods

We retrieved from Nordcan (www-dep.iarc.fr/NORDCAN) the age standardised incidence rates (ASR, European population) and 95% confidence intervals (CI) for all cancer sites but non-melanoma skin cancers, in 2014, among men. We compared, looking at 95% CI overlaps, the overall ASR for Nordic Countries with each country-level ASRs, and the latter with the Regional ASRs. We tested as a summary measure to report on variation the ratio (r) between ASRs for sub-areas and the overall ASR (R) of the area, r/R.

Results

The overall ASR for Nordic Countries is 453.1 cases for 100.000 inhabitants (SE 1.6); 95% CI of this rate are above those of Faroe Islands (251.0; 28.8), Finland (404.5; 3.4), Iceland (387.2; 14.8) and Sweden (428.5; 2.6) and below those of Denmark (504.4; 3.7) and Norway (509.9; 4.1). This heterogeneity becomes evident when looking at the r/R value of 46%, meaning that the range between ASRs of single Countries is 46% of the overall ASR. The same pattern applies for the comparison within Countries, where the r/R is small in Iceland (r/R 10%), Denmark and Norway (14%), and wider in Finland (32%) and Sweden (38%).

Conclusions

This exploratory analysis confirms that the overall ASR for a well-defined area may not reflect correctly the variation occurring among the different sub-areas. The adoption of the proposed r/R ratio in addition to the traditional ASTs would help to underline such heterogeneity.

ORAL 4: Semi-automated extraction of information from pathology reports: proof of concept

Joris Mattheijssens, Antoine Pironet, Kris Henau, Petra Denolf, Nancy Van Damme, Harlinde De Schutter

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Objectives

The population-based Belgian Cancer Registry (BCR) collects data on all new cancer cases since 2004, and since 2008, also on all pathologically examined breast, colon and cervical specimens. Hospitals and laboratories send structured notifications which for the latter are generally accompanied by pathology reports. BCR explored the possibility to extract detailed information from these reports in a semi-automated way in two feasibility studies: (1) K-RAS mutation in colorectal cancer, and (2) human papillomavirus (HPV) genetic tests in cervical smears.

Methods

Case study 1: A sentence-by-sentence approach was used to explore 16,109 colorectal cancer reports containing the search term “K-RAS”. Following extensive preprocessing, the 500 most frequent sentences were classified manually, and the remaining 10,609 automatically using the k-nearest-neighbours algorithm.

Case study 2: A word-based approach was used to explore 163 cervical smear protocols. The most relevant words were selected using the mutual information criterion, and 13 classifiers were built from a training set of 72 texts. The classifiers were then tested on 91 different texts.

Results

Case study 1: 46% of the reports contained a clear K-RAS test result, of which 32% were positive for K-RAS mutation. 44% of the reports mentioned the demand for a test, without stating a result. 77% sentences were correctly classified when testing with the leave-one-out method.

Case study 2: The classifiers performed very well, with all sensitivities and specificities above 90%. The area under the receiver-operating characteristic (ROC) curve was > 0.92 for all classifiers.

Conclusions

Semi-automatic information extraction from pathology reports seems possible with acceptable accuracy, for different lesion types and text mining techniques. Relying on these encouraging results, the methodology will be further developed. If successful, the obtained information will substantially enrich the data available at BCR.

ORAL 5: Recoding and study of recurrences and progressions of urothelial tumours in Tarragona, 1998-2009

Jaume Galceran[1,2], Marià Carulla[1], Alberto Ameijide[1], David Parada[3], Montse Sánchez[1], Lluís Castelló[1], Yolanda López[1], Laia Llauradó[1], Araceli Jiménez[1], Jàmnica Bigorra[1]

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Introduction

Bladder cancer is the third most common malignancy in Catalonia for both sexes as a whole but urothelial cancer registration raises specific issues due to the occurrence of different types of non-invasive (low and high grade papillary and in situ) tumours whose clinical course is characterized by high recurrence rates and progressions.

Objectives

1) To recodify the incident urothelial cancers from 1998 to 2009 using the criteria agreed between the cancer registries of Tarragona and Girona.

2) To describe the proportion of recurrences and progressions after one, three and five years of the first urothelial malignancy diagnosis.

Methods

Revision of all bladder (C67) and urinary tract (C65-66,C68) tumours of the period 1998-2009 and recording and coding all successive positive biopsies of these tumours until 2009. We have considered as progressions: from low grade to high grade non-invasive and in situ tumours, and from non-invasive to invasive tumours.

Results

After the revision and recoding of all incident cases and their successive biopsies, 30.1% of cases were low grade non-invasive carcinomas, 2.6% high grade non-invasive carcinomas, 2.0% in situ carcinomas, 60.4% invasive urothelial carcinomas, 1.3% other invasive cancers and 3.5% not classifiable cancers. No differences were observed between sexes. 27.0%, 38.3% and 42.1% of cases had a recurrence after 1, 3 and 5 years of diagnosis, respectively. Men presented a higher percentage of recurrences at 5 years than women (43.6% vs 32.3%). By histological group, invasive tumours presented the highest proportion of recurrences at 5 years (49.1%). 5.4% of cases presented a progression after 5 years of diagnosis (5.8% in men and 2.6% in women). Taking into account the progressions, invasive cases increased from 61.7% to 67.3%.

Conclusions

Registration and coding of all biopsies of urothelial tumours allows the in-depth study of these malignancies including that of their recurrences and progressions.

ORAL 6: How can we improve and make more useful the urothelial tumours registration? A proposal for a GRELL collaborative study

Laetitia Daubisse-Marliac[1,2], Jaume Galceran[3], Marià Carulla [3], Alberto Ameijide[3], David Parada[4], Pascale Grosclaude[1,2], Rafael Marcos-Gragera [5], Loreto Vilardell [5]

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Introduction

In 2012, bladder cancer was the fifth most incident cancer in the European Union (123,000 new cases; 96,500 in men and 26,500 in women) (ASIRe: 29.1 in men and 6.1 in women). Urothelial cancer registration raises specific issues due to the occurrence of different types of non-invasive (low and high grade papillary and in situ) and invasive tumours whose clinical course is characterized by high recurrence rates and progressions. Due to the differences in the definition, criteria of inclusion and codification of urothelial cancers, data of different cancer registries are not comparable and studies of the incidence difficult to understand.

Objectives

1) To conduct a survey on methods of registration of urothelial tumours to all cancer registries in GRELL countries.
2) To propose recommendations to record and to use these tumours in the calculation of incidence and survival.

Methods

To design a comprehensive survey on the problems that cancer registries have in the registration of urothelial tumours of urinary tract (C65-C68) and on the criteria they apply for registration and codification of these tumours. To analyse survey responses and discuss them with pathologists and oncologists. To elaborate and send a first proposal of recommendations for these tumours to GRELL cancer registries. To analyse and discuss the comments of the GRELL cancer registries and to elaborate a final proposal of recommendations.

Results

Collaboration of GRELL cancer registries in this survey is encouraged in order to be able to define and list all the problems in the registration and record of urothelial cancers, to found solutions to them and to achieve a complete and realistic proposal of registration and use of these tumours.

Conclusions

This collaboration would improve the quality of urothelial cancers data of the GRELL cancer registries and its comparability. The proposal will be send to the Steering Committee of the European Network of Cancer Registries.

ORAL 7: Could mobile mammography reduce social and geographic inequalities in breast cancer screening participation?

Elodie Guillaume[1], Ludivine Launay[1], Olivier Dejardin[1,2], Véronique Bouvier [1,2], Lydia Guittet[1,2], Pauline Déan[2], Annick Notari[3], Rémi De Mil[1,2], Guy Launoy[1,2]

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Objectives

Evaluation of mobile mammography for reducing social and geographic inequalities in breast cancer screening participation.

Methods

We examined the responses to first invitations to undergo breast cancer screening from 2003 to 2012 in a French department. Half of the participants could choose between screening in a radiologist's office or mobile mammography unit. We calculated the participation rate and individual participation model according to age-group, deprivation quintile, and distance.

Results

Among participants receiving a mobile mammography invitation, the preference was for mobile mammography; the preference was especially conspicuous in the age-group >70 years and increased with deprivation quintile and remoteness. There were no significant participation trends with respect to deprivation or remoteness. In the general population, the influence of deprivation and remoteness was markedly diminished. After adjustment, the invitation to mobile mammography was associated with a significant increase in individual participation (odds ratio=2.9).

Conclusions

Mobile mammography can target underserved and remote communities, allowing greater participation and decreasing social and geographic inequalities in the general population. Policy implications Proportionate universalism is an effective principle for public health policy in reducing health inequalities.

ORAL 8: Cancers in adults with intellectual disability: A descriptive population-based study

Brigitte Trétarre[1], Faiza Bessaoud[1], Jean-Pierre Daurès[1], Sarah Habib-Hadef[2], Daniel Satgé[2],
The CHAID Study Group

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Objectives

People with intellectual disabilities (PIDs) develop cancers as often as people in the general population, but disease is often discovered at an advanced stage. Further, the cancer profiles in PIDs have not been described comprehensively. We are therefore characterizing cancers in PIDs living in Herault, France.

Population and methods

Adults with ID living in Herault were identified through institutions specializing in the care of PIDs. Cancers in PIDs and their characteristics were determined by cross-checking the list of PIDs with the Herault cancer registry database. The comparison population comprised other adults in Herault ("general population").

Results

In 3,480 PIDs checked against the registry database, 63 cancers were recorded between 2008 and 2013. The cancer distribution by sex in PIDs was similar to that in the general population, but the age distribution and cancer localizations differed. For nearly all localizations, the standardized incidence ratio was non-significant; however, where 9 lung cancer cases were expected, only 4 were observed ($p = 0.05$). No lip, oral cavity, or pharyngeal cancers were diagnosed in the PID cohort. Among 11 invasive breast carcinomas, 36% had node involvement or distant metastases at diagnosis (31% in general population, $p = 0.70$). Among 8 gastrointestinal cancers, 6 (75%) had node involvement or distant metastases (45% in general population, $p = 0.02$).

Discussion and conclusions

Compared with the general Herault population, PIDs exhibit a difference in the distribution of cancer sites. This difference is likely explained by the low impact of some risk factors (e.g., tobacco, alcohol). Digestive cancers were diagnosed at a later stage than in the general population. This study is limited by a small number of cancer cases as well as a cohort comprising PIDs living mainly in institutions. Further work is being performed to increase the sample size.

ORAL 9: Social inequities in breast cancer incidence and mortality: a population- based study in Girona (2000-2013)

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Objectives

Emerging literature shows women residing in socioeconomically deprived areas have lower breast cancer (BC) incidence rates, higher mortality and much worse survival. This study aims to explore the association between area-level socioeconomic status (SES) and incidence and mortality rates of in situ and invasive BC in the Girona province.

Methods

BC incident cases were extracted from the population-based Girona Cancer Registry (GCR) for the period 2000-2013. In situ and invasive BC were analyzed separately following literature recommendations. Crude and European-adjusted incidence and mortality rates were calculated. SES was assessed at an aggregate level using a deprivation index, i.e. INDEX CITIES. Data at the area-level was extracted from the 2001 and 2011 Spanish Census and linked with the address at the moment of the study. A multivariate analysis will be conducted to assess the association between SES and cancer incidence. We will use the conditional Cox-proportional hazard model to estimate the hazard ratio (HR) of BC-specific mortality by area-level SES, before and after adjustment for other known risk factors (molecular subtype, age at diagnosis, grade and size of the tumor).

Results

A total of 5,819 women were diagnosed with BC (599 in situ; 5,220 invasive). Overall, the mean age (SD) at diagnosis was 60.84yrs (14.96). Incidence rates will be presented stratified by SES (quintiles). HRs will be also provided.

Conclusions

This is the first study specifically assessing the role of area-level SES and BC incidence, survival in Spain. Our results regarding the potential association between SES and BC incidence and mortality can serve as a basis for further studies assessing the mechanisms behind this potential association and the existence of modifiers.

ORAL 10: Establishment of a geolocation national database of the incidence of cancers in France (FRANCIM network)

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Objectives

The national methodological platform for the study and the reduction of social inequalities in cancer research set up a procedure which allows to attribute precise geographical coordinates to every tumors recorded in each cancers registers of the FRANCIM network in order to associate the French version of the European Deprivation Index based on socioeconomic characteristics. In 2016, the incidence of 2013 has been treated.

Methods

Geocoding consists in matching its geographical coordinates to an address. Our procedure includes different level of geolocation. For the major part of the addresses, precise coordinates were obtained considering the street's numero, type and name. For another part, only street's type and name or place name will be considered. And finally, for a little part of it and only when it was relevant, only city hall has been retained. The platform uses ArcGIS® 10.3.

Results

82601 cases have been recorded in 23 metropolitan and 3496 in 3 French overseas department (DOM) registries. Among them, 98.8% and 92%, were geocoded, respectively for metropolitan and for DOM. The level of the location was different in the metropolitan and the DOM – 75% precise address, 4% street's address and 15% place name address for metropolitan, 24% precise address, 20% street's address and 45% place name address addresses located at place name for DOM. Basically, the precision was high for about 95% of the addresses in both cases.

Conclusions

The results of this first incidence year give evidence of high quality of the geocoding procedure with more than 95% adresses located with a precise couple of x,y coordinates for France. These results depend on the quality of the data sent by registers. This work, conducted annually, will allow to construct a national database to conduct studies on the influence of social or territorial inequalities on the incidence, the treatment or the survival of patients with cancer.

ORAL 11: Cancer mortality and deprivation: methodological comparison among the performances of EDI, Italian Index and local indices

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Objectives

The comparison of the performances of different deprivation indices in evaluating the association between socio-economic status (SE) and some cancer causes of death could help in selecting the most affordable and targeted indicator for prevention and intervention policies.

Materials and methods

Three indices were compared: the European Deprivation Index (EDI) for Italy, the Italian Deprivation Index (IDI) and the Umbria and Liguria Socio-Health Deprivation Indices (USHDI and LSHDI). Mortality by cancer causes regarded Umbria region and Genoa city. ANOVA with F-test ($p<0.05$) were performed to evaluate the statistical significance of differences in death distribution through SE clusters.

Results

Lung, colorectal, female breast, prostate and haematological malignancies were analysed by gender using the three indices, reparametrized for the two areas. EDI and the local indices better stressed the associations known in literature for the five considered causes, while IDI seemed to fail in producing the same results. For instance, in Umbria SMR for haematological cancers linearly increased at deprivation decreasing for EDI in both sexes (M 98.0 to 109.7; F 77.3 to 107.0) and in females for USHDI (89.7 to 104.0) with a non-linear association in males. Instead, IDI found only a non-linear association in females and no association in males. Evaluation by age groups (0-64, 65+ years old) are on proceeding.

Conclusions

Considering the health intervention goals at the basis of the choice of the best index, and even if advantages and limits of the three indices must be accurately assessed, EDI and the local indices seemed to better identify the health needs of local population. This is probably due to their computing procedures (bottom-up selection of the SE variables) and clustering definition. The reasons behind the IDI limits could be related to its clustering methodological choices and to the top-down selection of the SE variables composing the index.

ORAL 12: Cancer incidence in Belgium projected to 2025

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Objectives

We present incidence projections for Belgium up to 2025 based on the observed incidence trends 2004-2014, the projected Belgian population and Poisson regression models.

Methods

The incidence projections for the period 2015-2025 were obtained by extrapolating the observed incidence trends for the period 2004-2014 up to 2025, using linear and log-linear Poisson regression models on the number of diagnoses as the outcome variable. Evolutions in the population size and age distribution were taken into account by estimating the gender specific incidence projections per 5-year age category per cancer site. These gender and age specific projected rates were then applied to the projected population to obtain age-sex specific projected incidence counts. Finally these age-sex cancer incidence counts were summed to obtain overall projected numbers of cancer diagnoses and crude incidence rates. Age-standardised rates (ESR and WSR) were directly calculated using the age-sex specific projected cancer incidence rates. Invasive cancer cases registered in the incidence period 2004-2014 were considered. Historic and projected population numbers were obtained from Statistics Belgium.

Results

Incidence projections are estimated for 21 tumour sites. The number of new invasive diagnoses for males and females in the year 2014 in Belgium was 35,948 and 31,872 respectively, which are projected to increase to 40,107 for males and 39,028 for females by 2025, showing that cancer incidence counts in females will approach the count level for males. The larger increase in total diagnoses for females compared to males is mainly driven by (1) a decrease in prostate cancer cases combined with (2) an increase in female breast cancer cases and (3) a stronger increase in lung cancer cases for females than for males.

Conclusions

Incidence projections for Belgium up to 2025 were obtained by extrapolating the observed incidence trends using age-sex specific Poisson regression models.

ORAL13: Incidence of non-melanoma skin cancer: data of Aracaju Cancer Registry

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Objectives

Non-melanoma skin cancers are the most incident malignancies in the world. However, cancer registries often do not collect data about them because of the various reasons of underreporting and incidence data are therefore estimated. The Brazilian cancer registries do collect incidence data. We aim to present incidence rates and trends of non-melanoma skin cancer in a mid-sized Brazilian population and hope to contribute with policy-makers to keratinocytic skin cancer control.

Materials and Methods

We calculated age-standardized rates by the direct method, world population, for the 1996-2012 time series of the Aracaju cancer Registry; and the we calculated incidence trends using the Joinpoint Regression Program 4.3.1.0.

Results

Of the total of 11.476 cases of non-melanoma skin cancer collected in the period of the study, 5,695 were in men and 5,781 in women. The histologic subtypes were: 84.5% basal cell carcinoma, 14.5% squamous cell carcinoma, and 1% of other histologic subtypes in men; In women, the percentages were 89.1%, 10% and 0.9%. Average incidence age-standardized rates were 228.6 (95%CI: 221.6; 235.6)/100,000men, and 145.4 (95%CI: 141.0;149.9)/ 100,000women. The Incidence trends showed mostly upward trends in the first years of the series, and the stabilized.

Discussions and Conclusion

The Aracaju Cancer Registry has achieved good case ascertainment. Although, the underreporting of skin cancer cases, due to removal of lesions without histopathologic confirmation, decisions to watch skin lesions, instead of excising them, and deferring medical examination are potential pitfalls of the study. Age-standardized incidence rates of non-melanoma skin cancer were high in the period of the study; and trends demonstrated stabilization over the most recent years of the time series.

ORAL 14: Trends in thyroid cancer incidence and mortality in Navarre, Spain, since 1975

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Objectives

We assessed trends in thyroid cancer (TC) incidence and mortality in Navarre (Spain) since 1975, and examined changes in tumour size at diagnosis.

Methods

Population-based incidence (1975-2010) and mortality (1975-2015) data were retrieved from the Navarre cancer and mortality registries. Age-standardized incidence (ASIR) and mortality rates (ASMR) were calculated by the direct method (1976 European standard population). Joinpoint regression was used to assess trends in rates. Data concerning tumour size were obtained through a hospital-based registry which included 77% of all differentiated (papillary and follicular) TC diagnosed in Navarre since 1986.

Results

In women, the ASIR of TC increased significantly during the whole study period, from 1.7 to 17.3 per 100,000; average annual percentage change (AAPC) +5.7% (95%CI +3.1, +8.4%). In men, the ASIR rose from 0.9 to 7.3 per 100,000; AAPC +6.0% (95%CI –2.5, +15.1%). Papillary TC increased significantly, with an AAPC of +9.8% (95%CI +5.0, +14.7%) in women and +7.6% (95%CI +3.5, +11.9%) in men. Trends for follicular TC were similar in both sexes, increasing from 1975 to 1987 (APC +9.8%, 95%CI +2.8, +17.4) and decreasing afterwards (APC –2.3%, 95%CI –4.3, –0.3). Regarding TC mortality, there was a non-significant decrease over 1975-2015, AAPC –1.5% (95%CI –3.0%, +0.1%) in both sexes. Among the studied sample of patients with differentiated TC (n=739), the proportion of microcarcinomas (T1a) increased from 8.8% in 1986-1990 to 30% in 2006-2010 ($p<0.001$), however there were no significant changes in the distribution by TNM stage.

Conclusions

Over 36 years, the incidence of TC in Navarre increased to 10 and 8 times the 1975 rates in women and men, respectively, while mortality has been stable. In the last 25 years, the rise was exclusively caused by papillary TC, since follicular incidence dropped. The increases may be predominantly due to improved detection, but it cannot be ruled out a rise in the true occurrence of TC.

ORAL 15: Risk of second primary cancers among first primary gastric cancer patients: a population-based study in North Portugal

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Objectives

The growing number of incident cases of gastric cancer along with improved survival result in a rising population of survivors at risk of second primary cancer (SPC). We estimated the 10-year cumulative incidence of metachronous (diagnosed >2 months after first primary cancer [FPC]) SPC in gastric FPC patients, with death as a competing event, and to compare the incidence of metachronous SPC with that expected in the general population.

Methods

A population-based cohort of gastric FPC patients from the North Region Cancer Registry of Portugal, diagnosed in 2000-2006 (n=7427) was followed to 31 December 2010 until the diagnosis of SPC, or death, whichever occurred first. Cumulative incidences for the occurrence of metachronous SPC were calculated, stratified by sex, age and tumour location, with death as a competing event. Standardized incidence ratios (SIR) of metachronous SPC were computed to compare cancer incidence rates among gastric FPC patients with the expected incidence in a sex-, age- and calendar year-matched population.

Results

Overall, 331 (4.5%) patients developed an SPC (26.9% synchronous and 73.1% metachronous). Over half of the SPCs occurred in digestive organs. Among men, the most frequent were colon, prostate, and trachea, bronchus and lung; in women, colon, breast and thyroid were the most common. The 10-year cumulative incidence of metachronous SPC for males was 6.2% and for females 3.5%. The SIR (95% confidence interval) for all cancers was 1.30 (1.12-1.52) in males and 1.20 (0.94-1.51) in females. Among both genders, significantly higher SIRs were observed for cancers of the oesophagus (males: 4.99; females: 8.03), small intestine (males: 11.05; females: 13.08) and colon (males: 2.42; females: 2.58).

Conclusions

Patients with a gastric FPC were found to be at increased risk of developing SPC, mainly in digestive organs, when compared to the general population. Close surveillance of gastric FPC patients may allow early detection of SPC.

ORAL 16: Use of a case-mix approach to study the trends in the incidence of second primary cancers

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Objectives

To study the trends in the incidence of second primary cancers (SPCs) using a case-mix approach. This standardisation procedure is of interest to control for confounding due to differences in first cancer site distribution by calendar period of diagnosis.

Materials and methods

Cases registered by 13 French cancer registries between 1989 and 2010 and followed up until June 2013 were included. The person-year approach was used to compute standardised incidence ratios (SIRs) of metachronous SPC. Firstly, the "usual" SIR for all sites of first cancer combined was estimated by sex and calendar period of first cancer diagnosis. Then, a specific weighting (cancer site distribution of EUROCARE) was used to compute a "case-mix" SIR by sex and calendar period of diagnosis. The trends of usual and case-mix SIRs were compared and discrepancies were interpreted with respect to the evolution of first cancer site distribution over time.

Results

More than 3.4 million of person-years at risk were included. Among males, usual SIRs dropped from 1.46 to 1.24 (-15.1%) between 1989-1994 and 2005-2010, while case-mix SIRs decreased from 1.39 to 1.28 (-7.9%). This difference could be explained by a stronger representation of prostate cancers (associated with a low risk of SPC) and, conversely, a weaker contribution of head and neck cancers (associated with a high risk of SPC) in recent periods of diagnosis. Among females, usual SIRs decreased from 1.28 to 1.22 (-4.7%) and case-mix SIRs decreased from 1.26 to 1.18 (-6.3%). This difference may be explained by a reduced contribution of cervix uteri cancers (associated with a moderate risk of SPC) in recent periods of diagnosis.

Conclusion

Case-mix SIR is an improved indicator to monitor trends in the incidence of SPCs given that it is not confounded by underlying trends in first cancer incidence. This single indicator may be of great interest for National Cancer Institutes to reflect SPCs incidence control.

Oral 17: Contribution of the Belgian Cancer Registry to Cancer Screening Programs

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Objectives

Because of its databases the Belgian Cancer Registry (BCR) plays a pivotal role in the organisation and monitoring of the Belgian screening programs for breast, cervical and colorectal cancer. Main objective is to guarantee the effectiveness, efficiency and quality of these early detection programs, in conformity with data protection regulations.

Methods

The laboratories of pathological anatomy obligatory provide the BCR with all test results of cervix, colon and breast specimens, regardless the diagnose, from 2008 onwards. The BCR completes this Cyto-Histopathology register (CHP) with administrative data from the Health Insurance Companies (HIC). In addition, the BCR cancer registration database covers patient and tumor characteristics at the population level from 2004 onwards. BCR couples these data with screening data using a unique patient identifier and in accordance with data security guidelines. Hence, the BCR serves as an important source of deliverables, which are defined through close collaboration with regional based screening organizations and according to international guidelines.

Results

BCR compiles exclusion lists, consisting of persons who do not need a screening examination, enabling a cost-efficient invitation process. The registration of follow-up of abnormal screening tests allows verification whether a cancer (precursor) has been detected by the screening test, next to the set-up of a fail-safe project which allows persons without follow-up to be identified. In addition to a yearly performed analysis of screen-detected and interval cancers, BCR is responsible for the calculation and report of quality indicators, including coverage and detection rate.

Conclusions

BCR plays a central role in the cost-effective organisation and quality assurance of the screening programs due to the centralisation of the cancer registry, the CHP registry and HIC data and due to the possibility of linking at personal level, while respecting privacy regulations.

ORAL 18: Describing the association between socioeconomic inequalities and cancer survival using an appropriate methodology

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Objectives

Socioeconomic inequalities in cancer survival are striking in countries with universal healthcare coverage. Describing the role of socioeconomic environment on cancer survival is therefore crucial but methodologically challenging. The ANGEFLEX study aims to explore the relation between socioeconomic deprivation and cancer survival using recently developed methods.

Material and methods

We analysed population-based cancer registry data of Normandie, France. We measured individual deprivation using the European Deprivation Index (EDI), an ecological continuous measure. We used (i) a flexible excess mortality hazard model with a cluster-specific random effect, and (ii) a selection model strategy to remove spurious non-linear and/or time-dependent effects of variables. We then derived the deprivation gap with excess hazard ratios and the age-standardised net survival (ASNS) for each deprivation quintile.

Results

Lip-Oral-Cavity-Pharynx (LOCP) cancer showed the largest deprivation gap. In men, the 5-year ASNS was 41% and 29% in least and most deprived groups, respectively (55% vs. 43% in women). Socioeconomic inequalities in 5-year ASNS were substantial for colorectum (60% and 53% in least and most deprived), lung (14% vs. 10%), melanoma (87% vs. 76%) and prostate (93% vs. 88%) in men, and for breast in women (87% vs. 83%). We found wider inequalities in long-term survival for stomach and pancreas cancer in men.

Discussion

The appropriate and innovative methods used allowed to explore in depth the impact of socioeconomic deprivation in cancer survival. The high deprivation gap for LOCP highlights the importance of early detection among the more deprived patients. The complicated pattern of the EDI effect in cervix uteri and the striking socio-economic inequalities for melanoma in men would benefit from more research. These results relate to a restricted area of France, and further studies relying on all FRANCIM cancer registries are expected.

ORAL 19: Existence of cure, estimation of time to cure and cure fraction. A FRANCIM population based study on 27 cancer sites

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Objectives

In cancer population-based studies, net survival cure models are useful to provide indicators such as time to cure. Main objective: to evaluate the existence of statistical cure for each solid tumour site and if this condition is respected to estimate the cure proportion (P) and the time to cure (TTC).

Material and methods

The study included all cases of cancer diagnosed between 1995 and 2010, aged 15-74 years and recorded in the FRANCIM database (27 solid cancer sites). The patients were followed-up 15 years or until 2013. Net survival was estimated for each cancer site and sex from a flexible parametric model of categorised age. Cure assumption was accepted graphically when net survival curve showed a plateau and excess mortality rate approached zero. In case of cure, P and TTC (the time after diagnosis from which the individual probability to be cured is ≥ 95%) were estimated using a flexible parametric cure model.

Results

Statistical cure was rejected for head and neck cancers in men and for pleura mesothelioma (not analysed in women). For all other cancer sites, the cure assumption was accepted in both sexes (excepting for some age groups). P was very high (≥ 95%) in cancers of testis (aged 15-54 and 55-64) and thyroid (both sexes aged 15-44, women aged 45-54 and 55-64) and very low (≤ 5%) in cancers of pancreas (both sexes aged 65-74) and central nervous system (men aged 55-64). TTC varied from 0 years in cancers of testis (aged 15-54 and 55-64) and thyroid (both sexes aged 15-44, women aged 45-54 and 55-64) to over 13 years for larynx (both sexes aged 15-54). TTC was <10 years in the majority of cases.

Discussion and conclusions

Although cure assumption is not statically tested, TTC presents a public health interest: since 2015 in France, the time to surtax-free insurance has been fixed 10 years after the end of treatments. TTC could be useful to lower it according to cancer site, sex and age at diagnosis.

ORAL 20: Survival of Women with cancers of breast and genital organs in the Basque population, 2000-2012

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Objectives

To study the survival in women with cancers of the breast and genital organs, to estimate the effect of age, diagnostic period and health area on the excess relative risk of death, by analizing data from the population of the Basque Cancer Registry.

Materials and Methods

The incidence data were obtained from the Basque Cancer Registry. The study included breast cancer and genital organs cancer in women, diagnosed between 2000-2012 followed up to 31-12-2014. Cases recorded only by DCO or diagnosed incidentally at autopsy were excluded, as well as those without follow up information. Pohar Perme's estimator was used to calculate the net survival by age group and diagnostic periods at 1, 3 and 5 years. Trends were analyze by means of the hybrid approach. To model effects of covariates on excess mortality hazard (EMH), the generalized lineal model was used.

Results

In the period 2000-2012, in the women were diagnosed 16.363 cases of breast cancer (26.85% of all cancers recorded in women), 1.131 cases of cervix cancer (1.86%), 3.633 cases of corpus uteri cancer (6%) and 2.102 cases of ovary and uterine adnexa cancer (3.45%). (217 cases were excluded). Overall net age-standardized survival (SNst) at the first year of diagnosis was 95.9% and at 5 years the SNst was 84.6% for the breast cancer. For the cervix cancer the SNst, were 84.8% and 63.3%, for the corpus uteri cancer the SNst, were 89.4% and 75.8% and for the ovary and uterine adnexa cancer the SNst, were 71.6% and 41.7%, respectively. The net survival decreased with age in all the cases and an improvement of prognosis during the period was observed in all age groups. Some differences was observed by place of residence.

Discussion and Conclusions

In these type of tumors, the age at diagnosis is an important prognostic factor. The existence of early diagnostic programs as in the case of breast cancer may contribute to improved prognosis, as well as access to care and the contribution of treatments.

ORAL 21: Prognostic factors associated with breast cancer survival: a population-based study in Cluj County (Romania)

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Objectives

The aim of the study was to analyze survival for breast cancer in Cluj County and to identify factors influencing survival, according to three age groups (<50, 50-69, ≥70 years).

Methods

The study included 1977 incident cases diagnosed during 2006-2012 and reported to the North-Western Regional Cancer Registry. Data regarding morphology (invasive carcinoma of no special type-NST, lobular and other types), stage (localized: I+II; advanced: III+IV), treatment and place of residence were collected from the Cancer Registry. Five-year relative survival analysis was performed for cases diagnosed during 2006-2011 and followed up until 31 of December 2016. A multivariate analysis by Cox model was used to study associated factors that influenced survival.

Results

After excluding 109 (5.5%) cases declared by death certificate only, 1868 cases were analyzed. 22.7% of cases were < 50 years, 54.7% were 50-69 years, and 22.6% over 70. For each age group, the percentage of advanced stages ranged from 36%, to 45.4% and 56.2% respectively ($p<0.001$). Five year relative survival was 69.9%, decreasing from 91.4% for stage I to 16.8% for stage IV. Survival decreased with age, from 82.7% in <50 years group, to 73.7% in 50-69 years and 47.8% in ≥70 group (p log-rank<0.001). There was no difference in survival by morphology in the young group. In older groups, survival was significantly lower for other types than NST or lobular carcinoma. A lower significant survival was also observed in advanced stages in all groups, and for women aged 50-69 years, in rural areas. In multivariate analysis, age, advanced stage, low differentiation grade, chemotherapy and rural place of residence were significant negative prognostic factors.

Conclusions

This study showed that age and stage at diagnosis are the most important prognostic factors affecting survival. The lower survival of women in the target age group for breast cancer screening, compared to reports from other countries, motivate the efforts for early detection.

ORAL 22: Metformin use and gastric adenocarcinoma survival in Belgium

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Introduction and objective

In Belgium, gastric cancer has a low incidence (~5/100000 person-yrs) but a poor survival (~40% at 5 yrs). In this cancer, an antitumoral effect of metformin, a well-known and frequently used oral antidiabetic drug, has been shown in several preclinical studies and in one clinical South-Korean series. Our aim was to assess the impact of metformin use on gastric adenocarcinoma prognosis in a population-based cohort of diabetics.

Methods

All patients diagnosed with stage I to III gastric adenocarcinoma in Belgium between 2006 and 2012 were selected from the Belgian Cancer Registry database. Cancer treatment and diabetic status were retrieved from Health insurance databases. Vital status was retrieved from the Crossroads bank of Social Security and cause of death from Official statistics of the three Belgian Regions. Overall (OS) and cancer-specific (CSS) survivals were then assessed. Adjusted hazards ratios (adj HR) were estimated using a Cox multiple regression model with metformin use as a time-varying covariate.

Results

Out of 2552 selected patients, 371 (15%) were diabetics. Median survival time of diabetics was 34 mths in metformin users, and 15 mths in non-users. The 5-yrs OS was 39% (95%CI: 33-45) in users and 26% (95%CI: 18-35) in non-users (adj HR=0.72, $p<0.02$). In time varying covariate analysis, the benefit of metformin use on OS was reduced (adj HR=0.82, p=0.16) and it disappeared on CSS (adj HR=0.99, p=0.94). However, when stratifying on stages, there was a significant benefit of metformin in stage I patients with both regression models (OS: adj HR=0.42, p=0.001 and CSS: adj HR=0.27, p=0.004).

Conclusion

These results in the Belgian population show that metformin use might improve the prognosis of gastric cancer when diagnosed at an early stage.

ORAL 23: Quality of life among long-term colorectal cancer survivors in Flanders, Belgium

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Objectives
Since the number of cancer survivors increases rapidly in the Western world, an important goal of modern cancer treatment is to create the best possible health-related quality of life (QOL) after a cancer diagnosis, in the short and long term. For the first time, we studied the long-term QOL of a large cohort of Flemish cancer patients; in the current study, patients were previously diagnosed with colorectal cancer. We investigated whether there are any sex-related differences in QOL and compared the QOL of the Flemish patients with those of the general population.

Methods
At the beginning of 2015, 1,171 adults that had been diagnosed with an invasive colorectal cancer 4 to 7 years earlier were invited to participate in the written survey. QOL was assessed with the general EORTC QLQ-C30 and the disease-specific EORTC QLQ-CR29 self-reporting questionnaires. The survey data were linked with the population-based database of the Belgian Cancer Registry to obtain additional patient and tumour characteristics. The QOL of the respondents was compared with that of a European reference population that completed the EORTC QLQ-C30.

Results
A total of 573 (49%) colorectal (ex)cancer patients filled in the questionnaire. The most reported complaints were fatigue/insomnia and bowel problems. (Ex-)cancer patients, particularly women, had more complaints and were more functionally limited than the general population. Although women from the general population were also characterized by a lower QOL, this difference between both sexes aggravated due to cancer.

Conclusions
Adverse effects of colorectal cancer and its treatment persist several years after diagnosis and differ between sexes. Our findings indicate the importance of a multidisciplinary follow-up of long-term survivors of (colorectal) cancer and the usefulness of long-term (para)medical and psychosocial care in function of existing needs of individual patients. Women are especially at risk.

ORAL 24: Do differences exist in the reporting of multiple primary tumours among the European population-based cancer registries

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Objectives

To identify possible variability in the reporting of multiple primary malignant tumours (MPMT) among population-based cancer registries (CRs) participating in the "Incidence and Mortality in Europe" project, launched by the European Network of Cancer Registries (ENCR) and the Joint Research Centre (JRC).

Methods

Data from 40 general population-based CRs, (28 from GRELL countries and 12 from other European CRs) covering a period of at least 20 years, were included in the analysis. The JRC-ENCR Quality Check Software (QCS) was used to check the internal consistency of the data and to identify warnings for MPMT. The proportion of patients with MPMT and their 95% confidence intervals were obtained before and after checking the data. The QCS checks the MPMT according to current International rules.

Results

A total of 9,168,786 malignant tumours (8,179,851 patients) were analysed (36% from GRELL countries). The proportion of patients with MPMT were 9.65% (9.63-9.70) and 8.5% (8.48-8.52) from GRELL and other European countries respectively. After checking the data, 0.1% of the cases had errors related to topography, morphology and/or behaviour in GRELL CRs and 1.0% in other European CRs. These cases were excluded from the data checked for MPMT. The proportion of MPMT with warnings accounted for 2% from GRELL countries and 23% from other CRs. Excluding cases with errors and considering the MPMT warnings, the proportion of patients with MPMT was 9.5% (9.46-9.53) from GRELL CRs and 6.6% (6.58-6.62) from other European countries.

Conclusions

Variability in reporting MPMT was found between CRs from GRELL and other European countries. After correction the errors due to topography, morphology and behaviour variables, and removing duplications of the MTPs, this variability increased further. The errors and warnings detected need to be reviewed and confirmed by the CRs. The QCS can contribute to improving the comparability of the results obtained from MPMT analyses.

ORAL 25: Which progresses in cancer control in Italy? Joint analysis of incidence, survival and mortality time trends 1999-2010

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Objectives

Cancer survival has improved in Italy and in Europe in the 2000's. We analyzed survival time trends jointly with incidence and mortality time trends to assess the overall progresses achieved in cancer control at national level and by geographical area.

Methods

We selected 23 cancer registries covering the study period 1999-2010 and representing the population of four Italian macro-areas: north-west, north-east, centre, and south. Annual percent changes in age-adjusted incidence and mortality rates were estimated with Joint Point Regression models. Survival changes were measured as absolute percentage difference in 5-year age adjusted net survival estimates (Pohar-Perme method) between 2008-2010 and 1999-2001. By combining significant changes of the three indicators we identified descriptive patterns discriminating optimal/partial - or inadequate - progress in cancer control.

Results

Tumours targeted by mass screening campaigns - cervix uteri, breast and colon-rectum – as well as male lung cancer, non-Hodgkin's lymphomas, liver and bladder cancers showed positive trends (increasing survival, decreasing/stable incidence, decreasing mortality). Inadequate progress was achieved for female lung cancer (increasing survival, incidence and mortality). Cancer burden was generally highest in northern Italy and lowest in the south, but the situation is reversed in terms of trends. Less favourable trends emerged in southern Italy for male lung, cervix uteri, colon-rectum, breast, non-Hodgkin's lymphoma, stomach, prostate, kidney and female lung cancers. For these neoplasms survival was lower than average in southern Italy.

Conclusions

The results are coherent with epidemiological transitions occurring in Europe. The north to south gap tends to shrink over time and in next future southern Italian regions will become those at highest risk. Ensuring equal access to early diagnosis and best care, particularly in more deprived areas, remains a strategic priority.

ORAL 26: Pre-diagnostic inflammatory markers and risk of Breast cancer and Non-Hodgkin Lymphoma in two prospective cohorts

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Objectives
It is known that long-term inflammation may cause damages like genetic instability or angiogenesis, that may promote tumors' development. Since cancer and inflammation are linked, we explore the association between pre-diagnostic inflammatory state characterized by a composite score of biomarkers and breast cancer (BC) or non-Hodgkin lymphoma (NHL) in 2 European prospective cohorts.

Methods
This work is based on a case-control study nested in the Italian component of the European Prospective Investigation into Cancer and nutrition (EPIC-Italy, n=261) and the Northern Sweden Health and Disease Study (NSHDS, n=402). 28 cytokines, chemokines and growth factors were measured from prospective blood samples, combined into an inflammatory score for each participant and tested with future risk of cancer through linear regression modelling. Analyses were performed independently between both cancer, in all population and by cohorts, and were repeated using the first axis of a principal component analysis as sensitive analysis. To evaluate the impact of follow-up time, analyses were carried after stratification by time to diagnosis.

Results
For BC populations, we observed a non-significant lower inflammatory score in cases compared to controls. Interestingly, the association became significant in all cases diagnosed less than 6 years after enrolment. For NHL populations, we observed a significant lower inflammatory score in cases compared to controls in pooled cohorts and NSHDS. This association remained significant after adjustment for potential confounders. Interestingly, this association was stronger in cases diagnosed less than 6 years for pooled cohorts. Sensitive analyses remained consistent with results for both cancer.

Conclusion
Our study suggests that inflammation is negatively associated with future risk of NHL cancer. The stronger effect observed in cases diagnosed less than 6 years may suggest a pre-disease state approached by a lower inflammatory score.

ORAL 27: Epicost tool: A web-based tool for Italian Cancer Registries

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Objectives
In Italy the number of cancer patients and the economic burden on the national health system is growing. Aim of this presentation is to describe a web-based tool, available to cancer registries (CRs), which allows the estimation of health care expenditure directly correlated to diagnosis, care and monitoring of cancer patients.

Materials and methods
The starting point of the Epicost tool is the information on prevalent cases provided by CRs, which are linked at individual level with administrative data on inpatient care, outpatient care and drug usage. The tool enable us to describe the health expenditure directly attributable to diagnosis and treatment of patients along a three-phase care pathway: initial (diagnostic procedures and treatments in the first 12 months after diagnosis), continuing (following treatments and monitoring for relapses), final (end- of-care treatments in the 12 months prior to death). The cancer sites analysed are colon, rectum and female breast.

Results
Outputs provided by the tool are: quality checks on uploaded data; summary tables of prevalent cases and related costs by phase of care sustained by the National Health System, stratified according to the variables of interest (age, sex, stage at diagnosis, administrative data source); cost profile graphs; plots of costs by data source.

Conclusions
This web-based tool is an answer to the question of quantifying the costs of cancer patients. Information on costs, together with other epidemiologic indicator (incidence, survival, prevalence and mortality), offers a more complete description of the cancer burden on regional and national health system. Other functions will be developed to facilitate an independent utilization of the tool by the CR: management of the uploading function and dynamic output.

The study was funded by the Italian Ministry of Health (CCM 2014).

ORAL 28: Global surveillance of cancer survival (CONCORD-3): The contribution of the Latin language countries

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Objectives

In 2015, the CONCORD programme established world-wide surveillance of population-based cancer survival trends for 26 million patients diagnosed during 1995-2009 in 67 countries. Data were contributed by 279 cancer registries. CONCORD-3 will update cancer survival trends to 2014 for 15 malignancies: oesophagus, stomach, colon, rectum, liver, pancreas, lung, melanoma of the skin, breast (women), cervix, ovary and prostate in adults (15-99 years), and leukaemias, lymphomas and brain tumours in both adults and children (0-14 years).

Methods

The CONCORD-3 database will include incidence and follow-up data from population-based registries in up to 70 countries for up to 30 million patients diagnosed with one of 15 malignancies during the 15 years 2000-2014. Standardised quality control procedures are applied to all data sets; errors are checked with the registry concerned. Net survival will be estimated with the Pohar Perme approach. To correct for background mortality, we will use life tables of all-cause mortality by single year of age, sex and calendar year in each country or region. Survival estimates will be age-standardised with the International Cancer Survival Standard weights.

Results

We will present preliminary results on patterns and time trends of 5-year net survival, for adults diagnosed with one of these 15 malignancies during 2000-2014 in Latin-language countries.

Conclusion

The survival estimates produced by the CONCORD programme will be used in up to 70 countries in the evaluation of health system performance for the quality of cancer care. This will facilitate comparison of the overall effectiveness of health systems as a basis for informing national and global policy for cancer control.

ORAL 29: Lung cancer survival: treatment modulation factors in Southern Spain

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Objective

Lung cancer is the leading cause of cancer death worldwide. The aim of this study is to analyze survival of lung cancer depending on treatments.

Methods

All newly diagnosed cases of primary lung cancer over the period 2010-2012 in the area covered by the population-based cancer registries of Granada and Huelva (regions in Southern Spain) were included. Data of diagnostic procedures, stage at diagnosis and treatment were collected from clinical records. Two-year age-standardized net survival was estimated by means of Pohar-Perme method. Relative Excess Risk (RER) of death was estimated through generalized linear models with a Poisson error structure.

Results

1196 cases of lung cancer were included, 83% were men. Microscopic verification was obtained in 80% of cases. 15% were stage I-II and 61% stage IV. Surgery was performed on 15% of patients, chemotherapy on 44%, and radiotherapy on 33%. After adjusting for comorbidity and stage, the most effective treatment in terms of survival was the combination of radiotherapy, chemotherapy and surgery, reducing the risk of death by 94% compared to patients who did not receive treatment (RER=0.06; 95%CI 0.02-0.16). Chemotherapy with surgery reduced the risk of death by 87% (0.13; 0.06-0.26) and surgery alone by 82% (0.18; 0.10-0.30). Radiotherapy combined with chemotherapy or surgery reduced risk of death by 76% and 79%, respectively. Patients who were treated with a single therapeutic option other than surgery had a lower reduction in the risk of death compared to other treatments combinations: 69% less risk of death in patients treated with chemotherapy alone and 48% less risk of death in patients treated exclusively with radiotherapy.

Conclusions

Treatments that include surgery are more effective for lung cancer patients' survival, although their use is only indicated in tumors with less advanced stages. Efforts should be focused on early diagnosis to improve the effectiveness of treatments and lung cancer survival.

ORAL 30: Age-related differences in treatment and therapeutic delays of patients with lung cancer in the Doubs department

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Objectives

Onco-geriatric structuration aims to guarantee to all elderly patients an optimal cancer care from diagnosis to treatment. In this context, an overview of elderly patients' treatment is needed. The objectives of this work were to investigate age-related differences in treatment and to analyze factors influencing delay to treatment.

Methods

Patients diagnosed with lung cancer in the Doubs department between 2005 and 2011 were included. Patients' treatment and delay to treatment were analyzed taking into account age category (<65, 65 to 74, 75 to 84 and 85 years or more), gender, area of residence (urban or rural area). Therapeutic delay was defined as the time between diagnosis and the beginning of the first treatment and was modeled using Cox regression.

Results

2087 patients were diagnosed with lung cancer throughout the study period. Among them, 934 (45%), 566 (27%) 470 (23%) and 117 (6%) were aged less than 65 yrs, 65 to 74 yrs, 75 to 84 yrs or 85 yrs or more respectively. The rate of patients who received at least one treatment decreased with age from 79% for patients aged 65 years or less to 44% for patients older than 85 years old. Among the 1527 patients who received treatment, older patients were less operated (surgery was performed for 16% of elderly vs 27% for younger patients). Similarly, older patients received less frequently radiotherapy (24% of patients older than 85 years compared to 35% of patients younger than 65 years). Chemotherapy was administrated independently from age. Median treatment delay was 28 days [15-48] and was influenced by none of studied factors.

Discussion-Conclusions

Although treatment disparities were observed with age, age did not impact delay to treatment. Further studies taking into account histological subtype, cancer stage, comorbidities and more detailed information regarding care are needed to help proposing patients the best therapeutic scheme.

ORAL 31: Association between surgical volume and short and mid-term mortality in lung cancer in Belgium

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Objectives

The present study has investigated the association between hospital surgical volume and outcome (60-day mortality and 1- and 3-year survival) after lung cancer surgery, on the level of the Belgian population. We used the database of the Belgian Cancer Registry (BCR), linked with claims data of the health insurance companies and vital status via the Crossroads Bank for Social Security.

Methods

Patients diagnosed with non-small cell lung cancer in 2010-2011 were identified in the BCR database, excluding patients with multiple tumours. Regression models were applied to assess the relationship between surgical volume of the hospital and 60-day mortality and 1- and 3-year survival, adjusting for patient and tumour characteristics: sex, age, comorbidities (chronic respiratory disease, cardiovascular disease and diabetes mellitus), number of days of hospitalization during the year prior to diagnosis, WHO performance status, histological subtype, tumour sublocalisation and stage. Surgical volume is taken into account as a continuous variable in the models.

Results

A total of 2,048 patients were included, who underwent surgery with curative intent in 89 different Belgian hospitals (86% of all hospitals). After taking the patient and tumour characteristics into account, there is a consistent relationship (on 60-day mortality and 1- and 3- year survival) between hospital surgical volume and the outcome of the patient. Survival improves with increasing annual volume up to 10 interventions but no further survival gain has been observed above 10 interventions per year.

Conclusions

In Belgium, a higher surgical volume of the hospital has a positive effect on patients' outcomes. Ten surgical interventions per year seem to be the required minimum to achieve an optimal performance. Based on the results of this work, we recommend referring patients who can potentially benefit from surgical treatment to larger surgical volume centres.

ORAL 32: The volume effect in paediatric oncology: a population based study

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Introduction

A large body of research is available on the volume effect on survival for adult cancers. Childhood cancers are rare, and in many countries the organisation of care for children with cancer has already been concentrated in some form. In addition, most care for childhood cancer is highly protocolised and carried out by specialised caregivers. In the framework of the RARECAREnet study we describe the hospital (H) volume for childhood cancers in six European countries and assess the relation between H volume and 5-year survival.

Materials and methods

The study involved 6 European national cancer registries, who provided individual data on incidence and Hs of treatment for 4,482 children diagnosed with cancer during the period 2000-2007 and followed-up for vital status to the end of 2012. We estimate 5-year survival by H volume and by country. We compare survival of high versus low volume Hs for three groups of childhood cancer (all, solid and haematologic); statistical significance was estimated by the z-test.

Results

In Belgium, 58% of cases were treated in 3 high volume Hs and survival was significantly better for all and solid cancers compared with low volume Hs. The same results from Ireland, where 65% of children were concentrated in one H. Also, in Slovenia 1 H treated the majority of cases with sinificant better survival for solid cancers, only. Five Hs treated children in the Netherlands, Finland and Bulgaria with significant better outcome for all cancers together in Bulgaria and solid tumours in Netherlands. A modelled analysis will be conducted.

Conclusions

These analyses described the situation in the period 2000-2007). An animated debate on centralisation of childhood cancers and organised efficient network is ongoing in many countries, therefore treatment of childhood cancers can have changed in the most recent years. This study is relevant to show possible progress."

ORAL 33: Epidemiology and initial management of bladder tumors in Northern France area: a population-based study

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Objectives

To investigate characteristics and management of non muscle invasive bladder tumors (NMIBT) at high risk of recurrence/progression and muscle invasive bladder tumors (MIBT) in a general population in Northern France.

Methods

All patients with incidental bladder tumor in 2011 and 2012 registered at the General Cancer Registry of Lille and its area (a population based registry; around 800000 inhabitants) were included in the study. Benign and urachal tumors were excluded. Data were obtained from the retrieval of medical files. Initial management was described by distinguishing patients who were 75 years old or older (>=75 y/o) and younger patients.

Results

Among the 538 bladder tumors included, 380 (70.6%) were NMIBT (119 (22.1%) low risk of recurrence/progression, 163 (30.3%) intermediate risk and 98 (18.2%) high risk), 147 (27.3%) were MIBT; 11 were other types of tumors. Among high risk NMIBT, 73% were discussed at oncology multidisciplinary team meeting (MDT), with a median time between diagnosis and MDT of 18 days, independently of age group. Type of treatment differed significantly between age groups ($p<0.001$): 46/52 (88%) patients <75 y/o received a specific treatment (37 had intravesical instillations and 9 had a cystectomy), while 20/46 (43%) patients >=75 y/o were surveyed after the transurethral resection of bladder tumor, which was the commonest attitude in this age group. Time between diagnosis and first instillation was also significantly longer for the older group ($p<0.01$). Among MIBT, 136 (92%) were discussed in MDT, within a median time of 18 days. Type of treatment differed significantly between the two age groups ($p<0.01$), specific treatment was more often done in the younger age group: 49/77 (64%) patients <75 y/o had a cystectomy conter 23/70 (33%) patients >= 75 y/o.

Conclusions

This description underlined that only a minority of patients >=75 y/o in this area had guidelines-recommended treatment performed for high risk NMIBT and MIBT.

ORAL 34: Estimation of breast cancer therapeutic waiting time using data routinely collected by a French Cancer Registry

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Objectives

The increasing number of breast cancers (BC) may induce a longer therapeutic waiting time (TWT), due to organization of care. To ensure equal access to quality care for everyone, the last French Cancer Plan recommends establishing indicators shared by professionals. Main objectives: to routinely follow the evolution of TWT for women with BC residing in Loire-Atlantique or in Vendée at diagnosis and to estimate factors associated with long TWT.

Materials and methods

Our study population consisted of 18 901 cases (10% with no calculable TWT). TWT was defined as the number of days between date of incidence and first treatment. The median [interquartile range] was used as the descriptive measure and the multivariate logistic regression to examine factors associated with TWT over 45 days for the two areas (2008-2013). Only data routinely collected were studied.

Results

TWT rose from 0 [0-10] to 36 [26-49] days in Loire-Atlantique between 1998 and 2013 and from 28 [11-42] to 34 [24-44] days in Vendée between 2008 and 2013. Nul TWT (corresponding to women without pathological confirmation of malignancy before surgery) decreased from 67% to 4% in Loire-Atlantique and from 20% to 6% in Vendée. Moreover, long TWT rose from 4% to 30% in Loire-Atlantique and from 19% to 23% in Vendée. Factors associated with long TWT were: women ≥ 80 years, screening versus clinical detection, neo-adjuvant chemotherapy versus surgery, public versus private hospitals. Inversely, aggressivity of tumour was associated with shorter TWT. We found no association between TWT and rural/urban status.

Conclusions

A worrying increase of long TWT was observed in both areas. Yet, nul TWT decreased in relation to better practices of biopsy before surgery as recommended by guidelines. The database of a registry is therefore a good tool to evaluate routinely waiting times. As a new perspective, the French deprivation index could also be studied among the explanatory factors of long TWT.

ORAL 35: Pathways of care for adolescent and young adult patients with cancer in France from 2012 to 2013

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Objectives

In France, as in other countries, there is a need for a population-based view of access to care and modalities of treatment for adolescents and young adults (AYAs) with cancer. Using 18 French population-based registries, the "CADO_BIS" study analyses the pathways of care for 15-24-year-old patients, diagnosed with cancer in 2012 and 2013, living in 19 French administrative areas (accounting for 23% of the French population).

Materials and methods

The Data are collected in medical records: socio-demographic characteristics, diagnostic information, indicators of quality of management, referral patterns before histological diagnosis, pathways from diagnosis to treatment, and modalities of treatment. AYA patients with cancer are included from January 1st 2015 to June 30th 2016.

Results

The incidences were 255 new cases per million adolescents (15-19 years) and 344 new cases per million young adults (20-24 years). Compared to adolescents, young adults had significantly a longest time to diagnosis (10 weeks [4-23] vs 8 weeks [3-21], P-value =0.03), especially for patients with soft-tissue sarcoma (P=0.02). Decisions of management for AYAs with cancer were taken within the context of multidisciplinary team (MDT) in 85% of AYAs, depending on diagnosis. The proportion of MDT meetings, involving both paediatric and adult haematologists/oncologists, was greater in 15-17 years than in 18-24 years (27.9% vs 11.5%, p<0.01). The proportion of patients managed in dedicated AYA units was greater in adolescents than in young adults (21% vs 10%, p<0.01). During the study period, 157 adolescents (39.5%) and 95 young adults (16.8%) were included in clinical studies on first-line therapy.

Conclusions

Compared to the previous French study, the organisation of care for adolescents (15-19 years) with cancer has improved with an increasing involvement of paediatricians in management of adolescents with cancer.

ORAL 36: Pediatric cancer patterns in populations of Mexican ancestry in Mexico and California

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Aside from high-dose radiation and previous chemotherapy, little is known regarding the cause of pediatric cancers. However, childhood cancers are believed to have a larger genetic etiologic component than adult cancers. Here, we compare the available data for incidence and mortality between two, genetically-related, populations of Mexican ancestry: those born and living in Mexico, a middle-income country, and those living in California (USA), a high-income country.

Incidence data from the Social Security Registry of Mexico (1996-2013) was compared with SEER-Hispanics in California (2000-2013), using ICD-O-3 and ICCC classifications. Pediatric mortality data from Mexico were compared to data for decedents of Mexican ancestry in California (2008-2012), using the ICD-10 classification. Site-specific incidence and mortality rates were directly compared using age-adjusted negative binomial regression.

Over 13,000 incident cases and 10,000 deaths were analyzed. Acute lymphoid leukemia (ALL), central nervous system (CNS) and acute myeloid leukemia (AML) were the three leading incident cancers and causes of pediatric cancer mortality. Compared to Mexico, all-cancers-combined incidence was 26% higher in California, (IRR 1.26: 95% CI 1.22-1.31) but mortality was 45% lower (MRR 0.55: 95% CI 0.50-0.59) with considerable differences by cancer site: incidence rates were similar between the two populations for 5 of the 9 analyzed cancer sites, yet significantly higher in California for ALL, kidney, CNS and neuroblastoma ($p<0.05$). For all cancer sites analyzed, the MRR between California and Mexico was substantially lower than the IRR, suggesting an important survival differential, likely based on differences in effectiveness in treating pediatric cancers.

For some cancer sites, differences in both incidence and mortality rates among these two genetically-related populations are intriguing and suggest a need to re-examine the role of environmental factors in childhood cancer.

ORAL 37: The Italian cohort of adolescents and young adults cancer survivors: a proposal for a collaborative GRELL study

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Objectives

Adolescents and young adults (AYAs) are defined as individuals aged 15 through 39 years at cancer diagnosis. The disease pattern of AYA cancer survivors (alive after 5 years from diagnosis) is only partially described and most of the follow-up guidelines for AYAs are based on studies on childhood cancer survivors. In Italy, the project Ada (Adolescents and young adults with cancer in Italy. How to ensure access to the best care and quality of survival) will establish the first prospective and dynamic Italian population-based cohort of AYA cancer survivors to examine the risk of adverse health outcomes in AYA cancer survivors. We would like to present the Ada project and invite the GRELL cancer registries (CRs) to establish AYA cancer survivors in their country to develop a GRELL cohort.

Methods

In Italy the AYA cancer survivors cohort will be established in collaboration with the 44 Italian CRs covering 60% of the Italian population. CRs will send to the National Cancer Institute in Milan (INT) the AYA cancer survivors diagnosed from 1976 onwards. CRs will match each AYA survivor to the information sources available at the CR level (clinical discharge records, pathological reports). This cohort will be a dynamic cohort. Every year (also after the end of this project) CRs will identify and send to the INT new AYAs cancer survivors with the life status updates for all survivors included in the cohort since the beginning. Using this survivors cohort, the excess risk of death, of second primary cancers, and of hospitalizations will be estimated.

Results

The AYA cancer survivors cohort will produce risk-stratification information essential to develop evidence-based clinical follow-up of survivors and will increase research on AYA survivors in future.

Conclusions

The establishment of a collaborative study with GRELL CRs will increase the information available, will support the importance of CR to study survivorship issues and will shed light on a problem largely unknown.

ORAL 38: Childhood and adolescent lymphoma in Spain: incidence and survival over 20 years. A population based study

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Objective
This presentation affords an overview of the incidence and survival of children (0-14 years) and adolescents (15-19 years) with lymphoma in Spain.

Methods
Lymphoma cases (0-19 years) were drawn from 11 Spanish population-based cancer registries. Overall, 1,655 cases (1983-2007) for incidence and 1,030 (1991-2005) for survival, followed-up for at least 5 years, were included in the analyses. World standard population was used for adjusted rates. Observed survival (OS) was estimated using Kaplan-Meier. Results are presented according to the following groups of ICCC-3: Overall Lymphoma group (excluding Miscellaneous lymphoreticular neoplasms); Hodgkin lymphoma (HL); Non-Hodgkin lymphoma (NHL) (excluded Burkitt) and Burkitt lymphoma (BL).

Results
Overall lymphoma age standardized incidence rate was 17.5 in children and 24.8 for 0-19 years. HL, NHL and BL represented 47%, 32% and 18% of all lymphomas, respectively. Incidence of HL increased with age being the most common lymphoma in adolescents (age specific rate 15-19: 32.5). NHL showed a less steep rise with age and BL showed stable rates along childhood and a drop in adolescents (0-4 years: 5.4; 5-9: 5.6; 10-14: 4.5 and 15-19: 2.7). In 2001-2005, overall 5-year OS for lymphoma was 84% (95%CI:78-90) for children and 88%(83-94) for adolescents. HL was the subgroup with the highest survival rates, with 100%, 94%(87-100) and 93%(87-98) for the 0-9, 10-14 and 15-19 groups of age, respectively. NHL showed the lowest survival in general, with 55%(25-84) survival in the 0-4 years group and rates between 70-79% in the other age groups. Survival for BL was about 90% in children 5-9 and 10-14 years old, while the group of age 0-4 was below 80%.

Conclusion
This is the first population-based study to present data of incidence and survival of lymphomas in children and adolescents in Spain. Incidence and survival time trends, survival for groups of clinical interest and comparisons with European data will be presented.

ORAL 39: Cancer survival in children and adolescents in last 50 years in Slovenia

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Objective

According to EUROCARE studies, a 5-year cancer survival among children is approaching 80% in Europe. Significant disparities among countries in this important indicator have already been noticed. The aim of our study is to describe the childhood and adolescents' cancer survival in Slovenia and to evaluate its changes in the last 50 years.

Methods

All children (aged 14 or less at diagnosis) and adolescents (aged 15-19) registered with a malignant disease in the population based Cancer Registry of Republic of Slovenia in the period 1964–2013 were eligible for our study. A Kaplan-Meier 5-year complete survival was calculated. From 3,365 eligible, 42 (1.3%) individuals were diagnosed with cancer only after death and were not considered in survival analysis.

Results

Among 2,240 children and 1,074 adolescents there were were 836 cases of leukemia, 535 cases with tumors of the central nervous system (CNS), 336 cases of Hodgkin's lymphoma (HL) and 268 cases of non-Hodgkin lymphoma (NHL). The overall 5-year survival linearly increased with time: in patients diagnosed 50 years ago, it was 28%, but in patients diagnosed in the period 2009–2013 it reached 88%. The adolescents survived significantly better in comparison to children in the last period (93% vs 86%). There is also a significant difference in the survival among patients with different cancer sites: patients with CNS tumors survived 5 years in 75%, those diagnosed with leukemia in 84%, those with NHL 95%, but all of those diagnosed with HL in the period 2009–2013 survived 5 years in our population.

Conclusions

The malignant diseases in children are heterogeneous group and a retrospective analysis of factors contributing to the observed improvement in survival is difficult. In Slovenia, all children suspected of having cancer undergo a diagnostic workup and treatment in a single national pediatric centre, which positively affects the survival along with developments in diagnostics and treatment.

ORAL 40: The effect of parental education on survival after childhood cancer

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Objectives

Social determinants of health, in addition to individual biological factors, are surfacing as possible targets for improvement of childhood cancer survival. Our study explores the association between parental education and survival after childhood cancer.

Methods

Two population databases have been used: the Childhood Cancer Registry of Piedmont (CCRP), recording incident cases since 1967, and the Turin Longitudinal Study (TLS). TLS records the census socio-demographic information and collects data on vital status and cause of death from local population registries and health information systems for over 2 million persons. Record linkage between CCRP and TLS provided information on parental education of childhood cancer cases diagnosed in 1967-2011 that appeared to be residents of the city of Turin in at least one of the Italian censuses in 1971, 1981, 1991, 2001. The association between parental education level and survival was estimated using Cox multivariable regression.

Results

The study included 1177 children diagnosed with cancer, 32% of which were leukemias, 23% CNS tumors and 12% lymphomas. In total, 472 deaths occurred during 15208 person-years. Nineteen percent of the cases had missing information on maternal and 11% on paternal education level, and were therefore excluded from the analysis. Among those for whom this information was available, a strong association between maternal education and survival was found for CNS tumors survivors (HR 3.12; 95%CI 1.00-9.69), while other tumor types showed weak or no association.

Conclusions

Our study suggests that survival after childhood CNS tumors may be associated with maternal education level. Efforts should be made to understand the reasons for the detected decreased survival, for instance to avoid delayed diagnosis and help mothers provide the optimal care for the child. The possible role of family support (marital status and family composition) and conditions should be explored."

POSTERS

POSTER 1: Assessment of Data Completeness and Accuracy in a Population-based Cancer Registry in Algeria: 1996-2013

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Objectives

Little is known about thyroid cancer incidence and trends in developing countries. Using historic data methods, we undertook an investigation to assess thyroid cancer incidence and trends for the period 1996-2013, using data from the Oran population-based cancer registry. There were no detectable trends in the incidence, and we hypothesized that data are not complete. We carried out a study to assess data completeness and validity using data on thyroid cancer diagnosed during the period 1996-2013.

Materials and methods

Using the independent case ascertainment approach, we re-screened all thyroid cancer sources for the period 1996-2013. Validation process included pathologic diagnosis of cancer, place of residence at the moment of diagnosis, gender, and management of duplicates. Morphology was recorded according to the International Classification of Diseases for Oncology, Third edition (ICD-O-3). Comparison of data collected with the cancer registry existing data included the number of sources re-screened, thyroid cancer number of cases, gender, date of birth, incidence date and morphological codes.

Results

Between 1996 and 2013, 1 354 thyroid cancer cases were diagnosed, while only 558 cases were reported to the cancer registry. Completeness of case ascertainment was 41% in the cancer registry. Differences included the number of sources screened (43 and 23 respectively), date of birth (38%), incidence date (62%), and morphological codes (32%).

Discussion and conclusions

Although the Oran cancer registry was established in 1993, it has not been accredited by IARC, and the quality of cancer registration data has never been assessed. Our study suggests that data in the registry have a low level of accuracy. There is scope for improvement, and we believe the data are not sufficiently robust to justify their use in the assessment of health care needs and in preliminary epidemiological analyses of incidence and survival.

POSTER 2: Risk of subsequent cancer after diagnosis of pleomorphic adenoma. A Swiss population based study

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Objectives

Pleomorphic adenoma (PA) is a benign tumor that is not systematically recorded in cancer registries. However, because PA shows certain characteristics of malignant tumors, its occurrence has been reported since 1974 in the Vaud Cancer Registry. This study examines the risks of primary cancers following a PA diagnosis.

Methods

We included all patients registered between 1974 and 2014 in the Vaud Cancer Registry with a PA diagnosis. Cases were followed-up until occurrence of subsequent cancer, emigration, death, or until end of 2014 (828 PA, 7742 person-years). All subsequent invasive cancers, including non-melanoma skin cancers (NMSC), were considered. We computed standardized incidence ratios (SIRs) and absolute excess risks (AERs) per 10,000 person-years with standard cohort techniques, and cumulative incidence of subsequent cancer, as a function of years since PA diagnosis, with standard life table approach.

Results

After a mean follow-up time of 9.3 years, 158 (19%) subsequent cancers were observed. The risk of any cancer was increased (SIR=1.6, 95%CI 1.37-1.87; AER=76), and was stable over time (1 year: SIR=1.91, AER=7; 10 years: SIR=2.0, AER=39; 30 years: SIR=1.97, AER=6). It was significantly increased for cancers of the breast (n=27, SIR=2.2, 95%CI 1.5-3.2, AER=19) and lung (n=19, SIR=2.5, 95%CI 1.5-3.9, AER=15). Other most frequent cancers were NMSC (n=38, SIR=1.2, non-significant) and prostate (n=14, SIR=1.7, non-significant). The cumulative incidence of subsequent cancer adjusted for competing risk of death was 7% (95%CI 4%-10%) at 5 years, 22 % (95%CI 18%-27%) at 15 years and 37% (95%CI 31%-43%) at 25 years.

Conclusions

Patients diagnosed with PA are at increased risk of subsequent cancers. This association may be due to host factors, lifestyle, treatment, and is at least in part attributable to increased surveillance. This study highlights the potential interest to register low malignant potential lesions to further investigate these issues.

POSTER 3: Risk communication: estimating lifetime risk and 10-year risk of lung cancer in a Swiss population

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Introduction

In Switzerland, lung cancer is a major cause of death in men and women. Because cancers are feared diseases, an adequate risk communication about the individual risk of developing a cancer is important. Mortality and incidence are traditionally used to assess cancer burden. However, these population-level metrics are not simple to use for risk communication. Lifetime risk and 10-year risk are informative and appear to be easily understood measures of individual risk of disease. Our goal was therefore to estimate these risks for lung cancer.

Methods

We used data on all lung cancer cases recorded between 2009 and 2013 by the Registre Valaisan des tumeurs and the Registre Vaudois des tumeurs. These population-based registries collect data on all new cancer cases of women and men living in Valais and Vaud. Data on mortality were provided by the Federal Statistical Office. We estimated sex-specific lifetime risk and 10-year risk of lung cancer using the current probability method, which estimates cumulative risk of any condition accounting for competing risk and death.

Results

Between 2009 and 2013, 2819 cases of lung cancer were recorded. The lifetime risk of lung cancer was 6.2% among men and 4.8% among women. In men, the 10-year risk of lung cancer was 0.1% at 40 years, 0.7% at 50 years, 1.7% at 60 years, 1.9% at 70 years, 1.4% at 80 years, and 0.3% at 90 years. In women, the 10-year risk was 0.1% at 40 years, 0.6% at 50 years, 1.4% at 60 years, 1.7% at 70 years, 0.9% at 80 years, and 0.1% at 90 years.

Conclusion

The manner how to present risk information influences patient’s perception and understanding of risk. Providing the lifetime risk and a 10-year risk chart of disease could ease risk communication for patients and health professionals.

POSTER 4:Prostate cancer incidence, mortality and net survival in the Caribbean archipelago of Guadeloupe

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Objectives

The French Caribbean islands of Guadeloupe and Martinique have one of the highest incidence rates of prostate cancer worldwide. In Guadeloupe, a population-based cancer registry was set up in 2008 for the monitoring of cancer incidence in the aftermath of the environmental pollution with chlordecone, a persistent organochlorine insecticide formerly used in banana plantations. We describe the clinical presentation, incidence, mortality and survival of prostate cancer for the period 2008-2013.

Methods

Age-specific incidence rates, as well as overall incidence and mortality were calculated using world-standardization. Kaplan-Meier observed survival and estimated age-standardized net survival were calculated with the Pohar-Perme method.

Results

Overall, 3295 cases of prostate cancer were recorded. World-standardized incidence and mortality were respectively 184.10 [177.82-190.39] and 23.86 [21.98-25.74] per 100 000 person-years. The cumulative risk of prostate cancer for men aged 0-74 years old was 36.1%. The age-specific incidence rates of prostate cancer form men aged>55 years were higher in Guadeloupe as compared to metropolitan France and Europe based on data from Globocan 2012, and US based on data from the SEER program. Five-year observed and net survivals were respectively 79.6% [77.9-81.2] and 90.7% [88.6-92.8]. This net survival was comparable to data for mainland France (90.5%), given by the CONCORD-2 study for an earlier period (2005-2009).

Conclusion

We observed no decrease in incidence rates of prostate cancer in Guadeloupe, but a steady decline in mortality rates, which nonetheless remain higher than in high-income countries. It is likely that genetic markers along with environmental risk factors and lifestyle changes are involved in the development of the disease. Our data for net survival confirm a good access to care in this population, partially offsetting the potential aggressiveness of the disease in black population suggested by some studies.

POSTER 5: Trend in the net survival of hematological malignancies in the elderly over a 30-years period in Côte d'Or

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Objectives

In the last decades, patient management in HM has evolved, especially for patients over 70 y-o. The aim of this study is (1) to describe the trend of patient management of patients over 70 y-o by 10-year periods in the Côte d'Or department since 1983 and (2) to describe the impact of this management on the net survival during these periods.

Methods

Data were extracted from the RHEMCO database, which includes all cases of HM from 01-01-1983 to 12-31-2013. Only patients over 70 y-o were included. Using the ICDO-3 classification, HM were categorized into 10 groups i.e. HL, ALL, AML, CLL, B-NHL, T-NHL, MM, MDS, MPN and MPN/MDS. Vital status was updated at 07-01-2015. Net survival was estimated by the Pohar-Perme's estimator and to compare net survival distribution the test proposed by Graffeo et al was used.

Results

During the study period, 4025 HM were registered. Most of patients were treated for their HM (60 to 100%), except for CLL, MDS and MPN/MDS where only 30% patients were treated. Net survival differences between treated and not treated was significant for AML (p=0.001), CLL (p=0.02) and MPN (p=0.003) in the whole period. Patients with MDS and AML are more treated in the last period, respectively (4 to 43%, and 51 to 71%). In a significative way, patients with B-NHL were less treated in the last period (74 to 61%). As well as for CLL (36 to 22%) and for T-NHL (94 to 84%). For treated patients, the net survival has improved significantly during the three 10-year periods for AML (at 1 year: 16 to 33%), B-NHL (at 10 years: 28 to 47%) and MM (at 10 years: 4 to 24%).

Conclusion

In the last decade, surprisingly, patients with CLL and with T-NHL were less treated without affecting their survival. While for patients with B-NHL and MM, despite poor management, their survival has increased dramatically indicating the possible role of access to more innovative treatments.

POSTER 6: Second primary malignancy risk among patients with head and neck cancer in Granada

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Objectives
Long-term survival in head and neck (H&N) cancer continues being a challenge. The appearance of a second primary malignancy (SPM) reduces survival drastically, being one of the main causes of mortality among these patients. The aim of this study was to analyse the SPM risk in patients who were diagnosed with H&N cancer during the period 1985-2012 in Granada, evaluating the patterns by site-specific

Methods
This population-based descriptive study was based on data recorded in the Granada Cancer Registry during 27 years (1985-2012) Standardized incidence ratios (SIRs) of SPM among patients with H&N cancer were analysed to quantify the relative risk compared with the general population. SIRs were calculated by study period (1985-1993, 1994-2002, 2003-2012), by age (<55,55-64,65-74,≥75) and by site of the first H&N cancer (oral cavity, oropharynx, hypopharynx, nasopharynx and larynx)

Results
Among the 3123 patients diagnosed with a first primary H&N cancer, 405 (13%) developed a SPM, 95.5% of them in men. The most frequent sites of SPM settlement were: lung (37.8%), H&N (14.6%), colorectal (8.4%), bladder (8.4%), prostate (7.7%) and oesophagus (4.4%) People with a first H&N cancer had 2.71 times more incidence for all cancer sites than general population (95% CI: 2.45-2.97). The highest risks were for hypopharynx (SIR=13.6), oral cavity (12.7), oropharynx (12.3), oesophagus (11.5) and lung (8.0) Downward tendency in the SIRs was presented along the periods with a marked decline for oral cavity. The excess of risk of appearance of SPMs declined at older ages, reaching non-significant values in older patients. Oropharynx and oesophagus were the sites with a significant higher SIRs for the appearance of SPMs in the youngest patients

Conclusions
Our results confirm that H&N cancer patients have a higher incidence than expected of developing a SPM. This study shows up the improvement but still insufficient in the control of the risk factors among H&N cancer patients

POSTER 7: Incidence and mortality trends of Pancreatic cancer in Granada 1985-2012

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Objective

Pancreatic Cancer (PC) was the 8th highest cancer-related cause of death in men and the 9th in women in 2012 in Europe. The aim of this study is to analyze incidence and mortality trends of PC in Granada during the period 1985-2012, by sex, age and histological type

Methods

Design: population-based cross-sectional study
Sources: Granada Cancer Registry, which covers a population close to 900,000 inhabitants.
Study Subjects: All incident and mortality cases of PC (C25 according to ICD-O-3) diagnosed between 1985 and 2012 and residents in Granada province.
Statistical analysis: log-linear regression (Joinpoint regression) with standardized rates (ASR-E European standard population) to estimate annual percentage change (APC), CI 95% and turning points in trends.
The results are presented by sex, age group (0-54, 55-74 and ≥75) and histological type: exocrine and endocrine cancers

Results

During the period 1985-2012 there were 1804 diagnosed cases of PC in Granada (52.3% in men). It represents 2.2% of the total cancer except non-melanoma skin. Incidence trends increased in both men (APC: +1.3%; p=0.051) and women (APC: +1.9%; p<0.001) over the study period. By age group a trend significant increase was also detected in men and women in the group of 55-74 years (APC: +1.9% and +2.6% respectively). Only 44% of cases have microscopic verification, from which 4.3% were endocrine cancers. 54.5% of pancreatic tumors occur in the head of pancreas and 22.6% have unspecified subsite. Deaths from pancreatic cancer were 1795 (52.3% in men). It accounts for 4.1% of deaths from total cancer except non-melanoma skin. Increase in mortality was +1.0% in men (p=0.078) and +1.9% in women (p<0.001).

Conclusions

PC in Granada was the 13th most frequent cancer and the 7th cancer with more deaths in both sexes, with incidence rates being higher in men. PC has a poor prognosis, therefore, coordinated efforts are needed to improve diagnosis and treatments to reduce PC mortality.

POSTER 8: Cancer Burden in elderly adults in Granada, 2008-2012

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Objectives

The proportion of elderly persons (65 years or older) has increased in most countries during the last few decades, and will increase further in the coming years. The objective of this study is to analyse elderly cancer incidence in Granada (south of Spain) over the period 2008-2012, and to describe the most common sites by sex.

Methods

Design: Population-based cross-sectional study.
Sources: Granada Cancer Registry, which covers a population close to 900,000 inhabitants (150,513 ≥ 65 years in 2012).
Study subjects: All newly diagnosed cancer cases, but non melanoma skin cancer, diagnosed in elderly adults (defined as aged ≥65 years) over the period 2008-2012 in Granada province were included.
Study variables: Age, sex and anatomical site according to the ICD-O-3.
Analysis: Number of cases, relative frequencies, age-specific rates and truncated age-standardized incidence rates (European standard population, TASR-E) per 100,000 inhabitants were calculated.

Results

20,453 cases of incident cancer were diagnosed in Granada province over the period 2008-2012 (58.3% in men). In elderly adults, 12,048 cases were detected (63.6% in men), representing the 58.9% of all ages. In both sexes, age-specific rates were higher in elderly adults than in persons aged under 65 years, being almost 8-fold more frequent (11-fold in elderly men and nearly 5-fold in elderly women), and, in elderly, were 2.3 higher in men than in women. The five most common sites were prostate (TASR-E: 558.8), lung (TASR-E: 352.9), colorectal (TASR-E: 344.1), bladder (TASR-E: 282.5), and stomach (TASR-E: 80.0) in men. Among women, they were breast (TASR-E: 192.4), colorectal (TASR-E: 170.2), corpus uteri (TASR-E: 72.8), central nervous system (TASR-E: 52.1), and pancreas (TASR-E: 39.0).

Conclusions

Elderly cases of incident cancer in Granada represented almost 6 out of 10 total cases over the period 2008-2012. Patterns of the most common sites were in accordance with other countries' data.

POSTER 9: Combining data to perform population-based observational studies: know your sources

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Introduction

Combining other data sources with the cancer registration database of the Belgian Cancer Registry (BCR) enables the execution of population-based observational studies. As information is partially overlapping between data sources, it is challenging which source(s) can be considered the most accurate. In a recent research project on the treatment of thyroid cancer (2009-2011) we explored the concordance between databases.

Methods

Standard patient and tumor characteristics of the studied cancer cohort (n=2,400) were selected from the BCR database. Additional information regarding tumor and treatment characteristics was manually retrieved from pathology and if available also cytology protocols (APO). Reimbursement data of the health insurance companies (HIC) were consulted for performed diagnostic and therapeutic acts. For a small subgroup (n=49), clinical file information was available.

Results

High concordance in histological diagnosis (92.6%), pT (77.6%), pN (84.6%), and pM (99.0%) categories was found between APO and BCR. pTNM subcategories (such as T1a) were more specified in APO. HIC data sources confirmed 97.6% of thyroid surgeries, 82.2% of fine needle aspiration cytology (FNAC) acts, and 68.2% of lymph node dissections (LND) mentioned in APO. Vice versa, 2207/2272(97.1%) thyroid surgeries, 379/1163(32.6%) FNAC, and 414/530(78.1%) LND reimbursed by HIC were confirmed in APO. FNAC reported in medical files were confirmed by HIC in 77.1% and by APO in 56.2% of cases. A better concordance with medical files was obtained for pT category (APO 89.8%), thyroid surgery (APO and HIC 100%), LND (APO 91.8%; HIC 83.7%) and radioiodine administration (HIC 87.8%).

Conclusion

Compared to medical files being considered as the most accurate data source, combining registered and/or administrative data can also result in high quality information. A good insight in pros and cons of each data source is crucial to perform population-based observational studies.

POSTER 10: Incidence trends and survival of HPV-related cancers in Cluj County Romania

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Objectives

The aim of the study was to analyze the trends of incidence and survival of HPV associated cancers in Cluj County.

Methods

We obtained the annual number of new cases, by five year age groups and year of diagnosis from 1998 to 2012 (for a population of 695,000 in 2012) from the North-Western Regional Cancer Registry. Annual percentage change (APC%) of standardized incidence rates (World Standard Population) for squamous cell HPV-related cancers (cervical, vaginal, vulvar, penile, anal and oropharingeal) and adenocarcinoma of the cervix, was estimated by joinpoint regression analysis. The five-year relative survival was calculated for cases diagnosed during 2006-2010 and followed-up until 31 of December 2015.

Results

2586 cases were included in total. 73% (1890 cases) were cervical cancers and 16.4% (425 cases) oropharyngeal cancers in both sexes. Cervical cancer incidence increased from 23.7%000 in 1998, to 36.5%000 in 2003 and then decreased with an APC% of 3.32 ($p=0.03$) to 23.9%000 in 2012. Squamous cervical cancer incidence decreased significantly from 21.4 to 18.9%000, with an APC% of 3.93 ($p=0.02$) in the period 2003-2012. Adenocarcinoma ascended from 0.77 to 4.09%000, with an APC% of 11.70 ($p<0.001$). Oropharyngeal cancers also registered also an ascending trend, in both sexes, from 2.18 to 3.77%000, with an APC% of 5.40 ($p=0.01$). For anal, vulvar, vaginal and penian cancers the incidence rates remained stable. Survival was higher for adenocarcinoma (66%), compared to squamous cervical cancer (59%). The survival ranged from 33% for vaginal cancer, 41% for vulvar and 50% for penian cancer. In males, the lowest survival rates were for anal and oropharyngeal cancers: 33% and 16%, whereas in females survival was higher: 54% and 40% respectively.

Conclusions

These data have implications for prophylactic vaccination, screening programs and changes in behaviors that have the potential to decrease the morbidity and mortality due to HPV-associated cancers.

POSTER 11: 5-year recurrence rate and disease-free survival for colorectal cancer in Canton Ticino, Switzerland, 2005-2010

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Objectives

aim of the study was to assess the recurrence rate (RR) and the disease-free survival (DFS) of colorectal cancers (CRC) after curative surgery in Canton Ticino.

Methods

data were selected from the Ticino Cancer Registry database. We considered non-metastatic CRC (M0, stage AJCC 7th ed. I-III) diagnosed in Ticino during the period 2005-2010 and undergoing curative surgery within 6 months from the incidence date with free margins (R0). Follow-up was at 31.12.2016. We considered local recurrence (neoplasm arising in the same localization according to the fourth digit subsite of ICD-O-3 classification) and lymph node/distant metastasis. 5-year RR and DFS probability were analysed for colon and rectum.

Results

919 CRC diagnosed during 2005-2010 were included in the analysis. 170 patients (18.5%, CI95%:16.0%;21.0%) experienced local recurrence or lymph node/distant metastasis, while the remaining 749 patients (81.5%; CI95%:79.0%;84.0%) were disease-free 5 year after surgery. The 5-year DFS probability was 79.6%; factors influencing significantly the DFS probability were stage ($p<0.0001$) and tumour localization ($p=0.0032$).

Conclusions

our results were compared with the available literature data, confirming the risk factors associated with the increased risk of recurrence. Cancer recurrence strongly impacts on patients' quality of life and it is related to quality of care, representing an indicator to be observed at population-based level with more specific analysis, for example in function of patients' characteristics.

POSTER 12: Long-term trends in incidence and survival of penile cancer in France

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Objective

To determine whether incidence and survival of penile cancer have evolved over time in France.

Methods

Data from 1989 to 2011 came from 16 French cancer registries. Age-standardized incidence (ASRW) and net-survival (NS) rates were calculated. Time-trend incidence and survival analysis were confined to the eight registries operating throughout the full period. Log-linear Poisson regression analysis was used to estimate the average annual percent of change (AAPC) in incidence rates. The incidence rate for the most recent period was also calculated from all 16 cancer registries operating in 2009-2011. Human Papilloma Virus (HPV) exposure was deduced from the morphological code. NS was estimated using the Pohar-Perme estimator of the net cumulative rate.

Results

No significant change in incidence was observed from 1989 to 2011 (AAPC: 0.08% (95%IC: -1.01%;+1.17%)). The incidence increased with age. The ASRW in 16 registries operating in 2009-2011 was 0.59 per 100,000 (95%CI: 0.50-0.68). The proportion of cases potentially linked to HPV was nearly 11% and did not significantly change over time. NS decreased with age but did not change over time, around 65% at 5 years.

Conclusions

Penile cancer remains rare in France but survival is still low. Clinical trials internationally conducted are needed to develop care recommendations with a sufficient level of evidence.

POSTER 13: Biomarkers and Cancer Registries: An evaluation at the European level

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Objectives

The European Commission's Joint Research Center (JRC) in close collaboration with the European Network of Cancer Registries (ENCR) is collecting cancer registries' data and developing a European Cancer Information System. In this context, the collection of data on biomarker use in the clinical setting for diagnosis, prognosis, and treatment decisions will be investigated.

Methods

The first phase of the study will focus on breast cancer. A systematic review of the available literature on biomarker use in the clinical setting, and their collection and utilisation by cancer registries will be performed and compared to European and other national recommendation guidelines.

Results

The study is in its starting phase. The results of the systematic literature review will provide 1) an overview and assessment of which biomarkers are tested for breast cancer, 2) an identification of the biomarkers used in the clinical setting and recommended for use on the international or national level, and 3) an overview of data on biomarkers collected by cancer registries. Based on these findings and in close collaboration with the ENCR, a harmonization campaign for the collection and coding of biomarker data by cancer registries may be established.

Conclusions

A large variety of biomarkers are tested for their clinical utility in cancer diagnosis, prognosis, for treatment decisions, and follow-up. At the moment, only a small number of these are actually used in the clinical setting. A systematic review on the collection and use of biomarkers at European level will enable the assessment of their diagnostic, prognostic, and therapeutic value on a large scale.

POSTER 14: Gallbladder and extrahepatic bile ducts cancer survival rates on registered cases at the Basque Cancer Registry 2000-2012

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Objectives

Describe the overall survival rate of gallbladder and extrahepatic cancer cases at the population of the Basque Autonomous Community and compare results with other available data.

Materials and methods

Cases were obtained from the Basque Cancer Registry. Cases registered with codes C23 or C24 (ICD-O3) and diagnosed from 2000 to 2012 were included. All cases were followed up to 31-12-2014. Cases recorded only by DCO or diagnosed incidentally at autopsy were excluded. Pohar Perme's estimator was used to calculate the net survival by age group and diagnostic periods at 1, 3 and 5 years. Trends were analyse by means of the hybrid approach. To model effects of covariates on excess mortality hazard, the generalized lineal model was used.

Results

988 female and 846 male cases were included on the analysis. The 5 year overall net standardized survival rate was 23.4% (95%CI: 18.8%-28.1%) for women and 21.6% (95%CI: 17.4%-25.8%) for men. First year survival was 45.44% (95%CI: 40.4%-50.3%) for women and 48.6% (95%CI: 44.4%-53.3%) for men. Three year survival was 28.1% (95%CI: 23.4%-32.8%) for women and 31.1% (95%CI: 26.6%-35.6%) for men. When analysed by age groups, most female cases were diagnosed on the oldest age group; younger ages showed better survival rates (5 year net-survival ranged between age-groups from 12. 8% to 31.3%). When data was analysed geographically one of the health-administrative regions shows statistically worse survival than the reference one. To study the evolution of survival, the study period (2000-12) was divided into three (2000-04; 2005-09; 2010-12). Data improved over time, with a significant increase between the first and second periods. Discussion and

Conclusions

Gallbladder and biliary ducts cancer survival rates in the Basque Autonomous Region are in line or showed better results than comparable data published by EUROCARE-5, SEER or CR-UK. Survival rates were significatively worse on male over 75 and on female over 65. Survival rates improved over time.

POSTER 15: Completeness of multidisciplinary team meetings in hematological malignancies: a 4-year population-based study

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Objectives

To determine the completeness of presentation in multidisciplinary team meetings (MTM) for hematological malignancies (HM) and to analyze associated factors.

Methods

A presentation in MTM for all HM diagnosed from 2010 to 2013 in a French area covered by a cancer registry (Tarn) was searched in the regional cancer file. Data were collected and analyzed regarding age, gender, year, stage at diagnosis for HM subtype, distance to medical facilities and deprivation index.

Results

1030 HM cases were analyzed, of which 69% were discussed in MTM. Completeness varied according to HM type, from 30% for histiocytocis to 94% for Hodgkin's lymphomas. It decreased in older patients, as well as in patients living closer to a medical laboratory, and in cases diagnosed in 2012. Both myelomas and chronic lymphocytic leukemias were presented more frequently when stage at diagnosis was high. MTM presentation was not linked to deprivation index or gender.

Conclusion

Although all cancer cases must be discussed in a MTM in France, only 69% of HM were examined in the Tarn from 2010 to 2013. Cases in older patients were less examined, but the rate of presentation increased with severity in some types of HM.

POSTER 16: Assessment of long term survival of breast cancer in Catalonia (1985-2004) through the web application "WebSurvCa"

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Introduction

Breast cancer (BC) has been the most frequent tumour and the main cause of cancer death in European women for decades. In Spain, BC 5-years relative survival (5-RS) has increased, but this improvement has not been evaluated at the population level in the long term.

Objectives

To develop a freely accessible web application for the calculation of relative survival (RS) in an automated way that implements long-term RS indicators. To determine short and long-term RS in BC patients diagnosed in Tarragona and Girona by period and age of diagnosis.

Methodology

The study included all women diagnosed with invasive BC in Tarragona and Girona areas during the periods 1985-1994 (N = 4211) and 1995-2004 (N = 5984). Vital status was followed until 2013. A web application (WebSurvCa) was developed using the framework "shiny" that analysed BC survival data for the periods 1985-1994 and 1995-2004 and for the 0-59, 60-74 and 75-84 age groups. The shown indicators were: observed and relative survival and the probability of dying from cancer or from other causes at 5 and 10 years.

Results

For the period 1985-1994, 5 and 10-RS were 73.7 and 61.4 respectively. By ages 5-RS were 76.7, 74.4 and 62.6 in the 0-59, 60-74 and 75-84 age groups respectively and 10-RS were 65.3 and 61.2 in the 0-59 and 60-74 age groups respectively. For the period 1995-2004, 5 and 10-RS were 83.2 and 74.1 respectively. By ages 5-RS were 87.2, 82.0 and 73.7 in the 0-59, 60-74 and 75-84 age groups respectively and 10-RS were 78.8 and 74.6 in the 60-74 and 75-84 age groups respectively.

Conclusions

This survival web-application allowed us to assess that RS5 and RS10 increased by around 10 and 13 points respectively for all age groups between the periods 1985-1994 and 1995-2004. This web application has been funded by Instituto de Salud Carlos III through the Project PI14/01041, co-funded by European Regional Development fund/European Social fund: "investing in your future"

POSTER 17: Pediatric tumors: experience of the Cancer Registry of Tunisian Center

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Objectives

The aim of this study is to establish the epidemiological, clinical and pathologic characteristics of childhood tumors in the Tunisian Center.

Methods

It is a retrospective study of 645 cases of pediatric cancers over a period of 10 years (2002-2011) according to the data of the Cancer Registry of Tunisian Center, one of the largest national cancer registries.

Results

Our study population was made of 645 cases of children (under the age of 15) with a sex ratio of 1.56. The mean age was 7years. Over 80% of patients were aged less than 10 years. The mean time of diagnosis was 2.6 months with extremes ranging from 0.2 to 72 months. Incidence of children cancer appeared stable over time. A cytological examination was performed in 34% of the cases while a biopsy was performed in 70% of the cases. More than 112 histological types have been found. The hemopathies, particularly leukemias, represented the largest diagnostic groups with 46% of our cases. Secondly, tumors of central nervous system were diagnosed in 122 cases (19%). Sarcomas and bone tumors were respectively found in 8.7% and 5% of our cases. Embryonal tumors accounted for more than 19% of all malignant diseases. Other histological types were more rare. Chemotherapy was indicated in 71% of the cases. 40% of our patient received surgical treatment. Radiotherapy was performed in only 14% of our population.

Conclusion

Although childhood cancers are very rare, representing less than 0.5% of all cancers in the world, they are the second leading cause of infant mortality. The distribution of pediatric cancers differs significantly from adult cancer; they are more diverse with specific histological types. Our results were comparable with the literature data specifically European data

POSTER 18: Trends in head and neck cancer net survival from cancer registries of six European Latin countries

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Objectives

In Europe head and necks cancers accounted for an estimated number of 99,600 new cases and 43,700 deaths in 2012. The mean age-standardized 5-year relative survival from these cancers in the EUROCARE-5 study was 40%, but varied between countries. The aim of the SUDCAN collaborative study was to compare the trends in net survival and the trends in the dynamics of the excess mortality rates between six European Latin countries: Belgium, France, Italy, Portugal, Spain and Switzerland.

Materials and methods

The data were extracted from the EUROCARE-5 database (end of follow-up: 01/01/2009).The results are reported from 1992 to 2004 in France, Italy, Spain and Switzerland and from 2000 to 2004 in Belgium and Portugal. Analyses included 27,138 cases from 27 registries. The analyses were carried out using a flexible excess rate modeling, accounting for potentially complex effect of the year of diagnosis (non-linearity, non-proportionality, interaction with age).

Results

In 2004, there were substantial differences between countries in 5-year age-standardized net survivals (SNS), France and Portugal presenting the lowest SNS (32% and 35%) while Switzerland and Italy the highest (45 and 46%), respectively. The SNS at 5 years improved considerably from 1992 to 2004 in Italy, Spain and Switzerland but not in France, because of lack of improvement in the elderly. The increase in net survival was linked to a decrease in the excess mortality rate up to 3–4 years after diagnosis.

Discussion and conclusions

The net survival from head and neck cancers improved over the study period, but substantial differences were still observed in 2004. Differences in sex ratio and anatomical distribution contributed only partially towards these disparities. Differences in stage at diagnosis, time to treatment and/or proportion of human papillomavirus-related cases are also probably involved in the survival disparities observed. Overall, the prognosis of these tumours remains poor.

POSTER 19: Cancer registries and cancer patients: a relationship to strengthen

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Objectives

The data used by Cancer Registries (CR) are the footprints left by cancer patients (CP) in the informatics archives of health systems with their exams, visits, tests, operations, treatments, hospital admissions, etc. CR should increase the use of these data to meet the patients' needs.

Methods

The Joint Research Center (JRC) considers the cancer patients among the most important stakeholders in the setting up of a European Cancer Information System. To take into account their views, the JRC organized the roundtable 'How can cancer registries best help cancer patients?' on 1st February 2017.

Results

The collaboration between the JRC with the European CR via the European Network of Cancer Registries (ENCR) was presented, and relevant experiences having already produced information useful also for CP (Eurocare, Airtum) were reported. DG Sante's representative underlined the central role of patients for European Commission's policies on cancer. The European Society of Medical Oncology aims to achieve the best care, improving survival and quality of life. Four representatives of CP (ECPC, Europa Uomo, Consumer forum NCRI, oPuce) reported from different perspectives on CP needs still unmet, underlining what they would expect from CR. The French 'right to be forgotten' law exemplified a possible fruitful roadmap to support policy with reliable data, to reduce discrimination against cancer patients

Conclusions

Cancer patients have the right to be more involved in all the activities having effects on their life, including CR data collection. Data produced by CR can satisfy many informative needs of patients, providing insight into waiting times for diagnosis, amount and time of relapse of the disease, long term effects of treatments, loss of work, discrimination in receiving loan and insurances, etc. Collaborating with patients CR could strengthen their role of reliable informative tools nested in social and health systems.

POSTER 20: Breast cancer-specific mortality of women with carcinoma in situ of the breast in the Girona province, Spain (1994-2013)

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Objectives

Evidence suggests that an invasive breast tumor after the diagnosis of breast cancer in situ (BCIS) increases the risk of dying from breast cancer (BC). However, long-term mortality remains understudied. We aim to estimate the influence of second neoplasm on mortality in patients with BCIS and to compare cause-specific and general mortality with the general population in the Girona Province (Spain).

Methods

BCIS incident cases diagnosed during 1994-2013 were collected from the population-based Girona Cancer Registry (GCR). The followed-up was until 31 December 2014. 5- and 10-year survival rates will be estimated using Kaplan-Meier method and the risk of dying compared to that of the general population (standard mortality ratio, SMR). Cox-proportional hazard model was used to estimate the hazard ratio (HR) of dying after a BCIS diagnosis by age at diagnosis, grade of the tumor, existence of a second tumor and expression of estrogen receptor. Influence of treatment on mortality will be also assessed.

Results

A total of 738 women were diagnosed with BCIS, with a mean age (SD) of 55.93 (11.26). 49 women were diagnosed with a second primary BC (11, BCIS; 38, invasive). 12 women died of BC and 52 of other causes. Of all dead women, 9 had experienced a second BC and 19 other non-BC tumors. The risk of dying increased after the diagnosis of a non-breast second tumor (HR: 1.57, 95%CI: 1.49; 15.40) and was lower for the age range 50-59years (HR: 0.22, 95%CI: 0.05; 1.02). BC-specific mortality was associated to age range 50-59years at diagnosis, unknown estrogen receptor profile, histological grades II and III and unknown, and BC recurrence (HRs will be presented).

Conclusions

Most women with a BCIS diagnosis died from causes other than breast cancer. Main risk factors for death were advanced aged at diagnosis and having an invasive breast cancer or other-location tumor. HR for BC-specific mortality and SMR will be presented.

POSTER 21: Statin use and ovarian cancer survival: a population-based study in Belgium

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Objectives

Preclinical evidence from ovarian cancer cell lines and animal models suggest that statins could exhibit anticancer properties. Effects on cancer have also been observed in epidemiological studies but results were inconsistent or related to several limitations such as small sample size or immortal-time bias. This study aimed at investigating if statin use is associated with improved ovarian cancer survival.

Materials and methods

We conducted a cohort study of patients diagnosed with invasive ovarian cancer between 2004 and 2012 identified in the Belgian Cancer Registry databases. Vital status was obtained from the Crossroads Bank for Social Security and ovarian cancer-specific deaths were identified from death certificates. Further linkage to databases of health insurance companies provided reimbursed medications and medical acts. Time-dependent Cox regression models were used to calculate adjusted hazards ratios (adj HR) and 95% confidence intervals (95%CI) for the association between postdiagnostic exposure to statins and overall' or ovarian cancer-specific mortality in a 5-years follow-up time. Potential confounders were age at diagnosis, year of diagnosis, comorbidities, cancer stage, and cancer treatments.

Results

A series of 5839 patients with ovarian cancer met the inclusion criteria. The use of statins after diagnosis was associated with a decrease in hazards ratios of both overall' and ovarian cancer-specific mortality (adj HR=0.83, 95%CI: 0.76-0.91, P<0.001 and adj HR=0.85, 95%CI: 0.76-0.94, P<0.001, respectively). Stronger effects were observed in patients who were also statin users before diagnosis (overall mortality adj HR=0.75, 95%CI: 0.68-0.83, P<0.001) and in patients using lipophilic statins (overall mortality adj HR=0.80, 95%CI: 0.71-0.90, P<0.001).

Discussion and conclusion

Results of this large nation-wide cohort of ovarian cancer patients suggest that postdiagnostic use of statins might improve survival.

POSTER 22: Assessment of the association between prediabetes and cancer in a retrospective poblational cohort in Catalonia, Spain

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Objectives

Evidence supporting metabolic syndrome (MetS) as an etiological factor of cancer is inconclusive. It is still unclear whether the strength of this association is greater than the sum of its individual components or which components may be driving it. In addition, recent studies suggest that prediabetes may be also associated with cancer risk, while no publications have explored it for prehypertension. We conducted the present study to assess the association of MetS, its components, prediabetes and prehypertension, with overall and site-specific cancer risk.

Methods

A retrospective cohort (between January 1, 2005 and December 31, 2012) was made up of individuals from the general population from the northeast of Catalonia, Spain. Data on demographics, lifestyle factors and MetS components were collected among 10,321 men and 11,225 women aged ≥15 years. Given that most of the explanatory variables of cancer risk were time dependent and, therefore, the risk was not proportional, we used the Andersen-Gill (AG) model to perform a multivariate survival analysis. Inferences were performed using a Bayesian framework.

Results

During the 8-year follow-up, 5124 (23.8%) individuals had at least one episode of MetS and 1776 (8.2%) developed cancer. In the crude model, a significant association was found for prediabetes (OR=2.00, 95%CI 1.41;2.83), overall and by sex. In the AG model, adjusted by sex, age, chronic diseases, country, smoking and alcohol status and treatment, prediabetes remained significantly associated with all cancers (HR=1.13, 95%CI 1.04;1.52) as well as prehypertension (HR=1.82, 95%CI 1.47;2.26). By cancer site, prehypertension was significant for breast, rectal and endometrial cancers, while there was no association with prediabetes. In addition, type II diabetes was related with breast and colon cancers and hypertension was strongly associated with colon cancer.

Conclusion

Our results support the association between prediabetes and increased cancer risk.

POSTER 23: More early stage breast cancers in mammographic screening attenders

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Objectives

In the Flemish Region, organized mammographic screening is offered to women aged 50 to 69 from 2001 onwards. The main goal is to reduce breast cancer mortality and morbidity through early stage diagnosis. Among screening attenders, 2/3 of all cancers are screen detected, while 1/3 are interval cancers (which are diagnosed after a negative screening). Similar to cancers diagnosed in non-attenders, interval cancers in screening attenders are more likely to be of advanced stage. To investigate whether attending a screening program results in early stage diagnosis, stage-specific incidence rates were compared among attenders and non-attenders of the Flemish screening program.

Materials and methods

To identify breast cancers among attenders and non-attenders, the Belgian Cancer Registry coupled the cancer incidence data from 2007-2013 to screening participation data of 2007-2011. After linkage, truncated, age-standardized (according to the world population), stage-specific incidence rates were calculated in both attenders and non-attenders. Only breast cancers diagnosed within 2 years after screening (attenders) or invitation date (non-attenders) were included.

Results

903,502 attenders and 869,484 non-attenders were included. Early stage breast cancer incidence (expressed per 100,000, with 95% CI) was significantly higher among attenders compared to non-attenders, while late stage breast cancer was significantly lower in attenders: in situ: 111 (107-114) vs 73 (71-76) – stage I: 382 (375-388) vs 297 (291-303) – stage III: 66 (64-69) vs 99 (95-102) – stage IV: 14 (12-15) vs 59 (56-61). No significant difference in stage II breast cancer incidence was found.

Discussion and conclusions

Although interval cancers are more likely to be of advanced stage, attending mammographic screening leads to more early stage diagnosis. Further investigation is necessary to evaluate if this also results in less aggressive surgery and additional treatment.

POSTER 24: Evaluation of the cervical cancer screening programme in the Flemish Region by the Belgian Cancer Registry

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Objectives

An organised population-based call-recall cervical cancer screening was set up in 2013 in the Flemish Region for women aged 25 to 64, using cytology as screening test. The Belgian Cancer Registry (BCR) calculates yearly quality indicators to monitor this program.

Materials and methods

Besides new cancer diagnoses, BCR collects all anatomo-pathological results of cervical samples in a central cyto-histopathology registry, which is completed with administrative data from health insurance companies. BCR plays a crucial role in the quality assurance of the screening program due to the centralisation of all these data and due to the possibility of linking at the personal level using a unique patient identifier. By linking these databases with a Flemish population registry, BCR calculated for 2013 several quality indicators.

Results

In 2013, 64% of the Flemish female population between 25 and 64 years old was covered by the screening program. 7% of the eligible women had an abnormal screening. 27% of the women with an abnormal screening had no follow-up within one year. 236 new invasive tumours were diagnosed within the target population. Analysis of the screening history revealed that 111 of these tumours were diagnosed in women that were not screened within 5 years before. About 40% of the tumours in these non-screened women are stage I. In contrast, more than 70% of the women who had at least one screening in the last 5 years had a stage I tumour. 82 of the 236 women with an invasive tumour were tested for HPV in the past 5 year, whereof 10 with a negative HPV test result.

Discussion and conclusions

Quality indicators reveal the weaknesses in the screening program. They can be directly translated into policy decisions to increase the program coverage, to improve the follow-up rate after abnormal screening and to investigate HPV negative cancers. Centralisation of databases and the possibility of individual linking are crucial to a successful screening program.

POSTER 25: Colorectal cancer occurrence and outcome: A family registry cohort

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Objectives

Family history (FH) of colorectal cancer (CRC) has been consistently associated with a higher risk of CRC but its impact on CRC occurrence and outcome has never been entirely elucidated. We will set up a population-based cohort of CRC patients and their first- and second degree-relatives (FDRs and SDRs) in Geneva. The objectives are to assess the prevalence of FH of CRC among CRC patients; compare patient, tumor, and management characteristics by FH and evaluate the impact of FH on patient outcome; investigate the risk of cancer in FDRs and SDRs; evaluate the uptake and determinants of genetic counseling among CRC patients with FH of CRC, and its impact on survival.

Design

The cohort of CRC patients will be established using the Geneva Cancer Registry (GCR) database. All patients diagnosed with a first primary invasive CRC are eligible to participate in the cohort. Relatives of eligible CRC patients will be identified in the Population Cantonal Office files through an automated procedure using a unique identification number.

Data collected

Information on patients, tumor characteristics, treatment and outcomes will be extracted from the GCR database. Additional clinical information will be collected from the clinical files. Data on genetic counseling uptake will be collected using a linkage procedure with the database of the only center providing genetic counseling for familial aggregation or CRC predisposition syndromes. To identify individuals with hereditary CRC syndromes we will perform immunohistochemistry analyses to evaluate the expression of the mismatch repair proteins on next-generation Tissue Micro Array blocks obtained from original whole tumor tissue blocks.

Discussion and conclusions

The results of this project will provide most accurate data on the impact of familial and genetic factors on CRC and will help to improve screening and surveillance guidelines and treatment recommendations for individuals with a CRC and their families.

POSTER 26: Incidence, mortality and survival of kidney cancer in the Basque Country population

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Objectives

The aim of this study is to analyse trends in incidence (2000-2013), mortality (2000-2015) and survival (2000-2012) of kidney Cancer in the Basque Country; and to estimate the effect of sex, age, diagnostic period (2000-04, 2005-09, 2010-12), and health area on the excess relative risk of death.

Methods

The incidence data were obtained from the Basque Country Cancer Registry. We included renal parenchyma Cancer (ICD-10:C64) diagnosed from 2000 to 2013. Mortality data were obtained from Basque Country Mortality Registry (2000-15). Trends in incidence and mortality were evaluated using Join point regression analysis. For the survival study, tumours diagnosed from 2000 to 2012 were followed up to 2014/12/31. Pohar Perme's estimator was used to calculate the net survival by sex, age group and diagnostic periods at 1, 3 and 5 years. Trends were analysed by means of the hybrid approach. To model effects of covariates on excess mortality hazard (EMH), the generalized lineal model was used.

Results

Incidence rates during 14 years, increased significantly in both sexes (2.3% annually in men and 2.4% in women). Mortality rates have not changed significantly from the year 2000 to 2015. 4457 cases of renal parenchyma cancer were diagnosed in the period 2000-2012 (103 cases, than are only recorded by DCO were excluded). Net age-standardised survival (SNst) at the first year alter the diagnosis was 79.0% in men and 80.4% in women; and at five years was 64.9% in men and 66.5% in women. Survival improved significantly from 2000-04 to 2010-12 in both sexes. The net survival decreases with age, especially in people older than 75 years, whose EMH increased significantly.

Discussion and Conclusions

kidney Cancer incidence is increasing significantly in Basque Country but its mortality rate has not changed significantly in the last 15 years. Therefore survival prognosis of kidney cancer has improved in the Basque Country.

POSTER 27: Net survival in peripheral T-cell lymphoma in Europe between 2000 and 2007: results from the Rarecarenet database

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Objectives

Few data are available for rare hematological malignancies such as Peripheral T-cell lymphoma (PTL). The objectives were to compare PTL survival by subtype across European areas by studying the net survival according to age and sex using the collaborative European population-based cancer registries.

Methods

PTL diagnosed between 01-01-2000 and 12-31-2017, aged ≥ 15 years were selected from the RARECAREnet database (ICD-O-3 codes: 9702/3 for Mature T-cell lymphoma, NOS (MTL-NOS); 9705/3 for Angioimmunoblastic T-cell lymphoma (AITL) and 9714/3 for Anaplastic large cell lymphoma, T cell and Null cell type (ALT)). The vital status was updated at 12-31-2008. We estimated the 5-year relative survival (5-year RS), using the ratio-estimates of EDERER II by PTL-subtype, sex and age-classes (15-44, 45-64, 65-74 & 75-84) into 5 areas (Northern, England, Central, Eastern and Southern Europe). The age-standardized survival was estimated using the ICSS ponderation. Net survival will be estimated using the Pohar-Perme's estimator.

Results

7252 PTL were included (3871 MTL-NOS, 1999 ALT & 1382 AITL). The repartition by sex and age was similar within Europe. In Europe, the age-standardized 5-year RS was equal to 32% [29-35] for AITL, 32% [30-34] for MTL-NOS and increase until 43% [40-46] for ALT. In each PTL subtype, an age-disparity was observed with a poorer survival for oldest patients, especially for ALT. Few differences were found according to sex and geographical area. For the whole PTL group, youngest patients had a better, but not significant, prognosis in Northern Europe compared to other European area, respectively equal to 86% [69-94] and less than 64% in others areas.

Conclusions

This is the first study estimating the net survival by PTL subtype in Europe. We didn't found area differences in the PTL survival in contrast to data found in NHL-B survival in previous European studies. This could be due to the lack of improvement in therapeutic management of these lymphomas.

POSTER 28: Smoking and gastric cancer: meta-analyses of published vs pooled analyses of individual participant data (StoP Project)

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Objectives

Smoking is one of the main risk factors for gastric cancer, but the magnitude of the association estimated by conventional systematic review and meta-analysis might be inaccurate, due to heterogeneous reporting of data and publication bias. We aimed to quantify the joint impact of publication-related biases, and heterogeneity in data analysis or presentation, in the summary estimates obtained from conventional meta-analyses.

Methods

Individual participant data pooled-analyses of studies that take part in the Stomach Cancer Pooling (StoP) project and meta-analyses of published data available in previously published reports from same studies were compared regarding: number of studies included, estimates obtained and corresponding precision, and heterogeneity of results. For each of these items, the ratios of the values of conventional and individual participant data pooled-analyses were computed, with the latter as reference.

Results

From the 23 studies in the StoP Project, 20 had published reports with information on smoking and gastric cancer, but only six had specific data for cardia cancer and seven had data on the daily number of cigarettes smoked. Compared to the results obtained with the StoP database, conventional meta-analysis overvalued the relation between ever smoking (summary odds ratios ranging from 7% higher for all studies to 22% higher for the risk of cardia cancer), and yielded less precise summary estimates (standard errors of up to 2.4 times higher). Additionally, funnel plot asymmetry and corresponding hypothesis tests were suggestive of publication bias.

Conclusion

Conventional meta-analyses and individual participant data pooled-analyses reached similar conclusions regarding the direction of the association between smoking and gastric cancer. However, the use of published data tended to overestimate the magnitude of the effects, possibly due to publication biases, and limited the analyses by different levels of exposure or cancer subtypes.

POSTER 29: Does data quality change with patients' age? An evaluation on European registries participating in the ENCR-JRC project

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Objectives

The objective of the study is to preliminary assess data quality by patient's age in the cancer registries (CRs) that participated in the "Incidence and Mortality in Europe" project, launched in 2015 by the European Network of Cancer Registries (ENCR) in collaboration with the European Commission's Joint Research Centre (JRC).

Methods

Data from 81 general population-based CRs from 7 GRELL and 19 other European countries were included. All CRs submitted data via the ENCR-JRC portal and completed the data questionnaire. The JRC-ENCR Data Quality Check Software was used to check the internal consistency of the variables. The following data quality indicators were calculated: DCO %, morphologically verified (MV) cases % and mortality to incidence ratio (M/I).

Results

Out of 24.728.808 incident cases, 20% were from GRELL countries. Data quality was generally good, showing heterogeneity by country and registry. However, indicators for older age groups showed lower standards, particularly for some cancer sites. In GRELL countries liver cancer DCOs were 6.3% for ages 25-59, 9.5% for ages 60-79, and 13.2% in the group of 80 years +; in the other European countries these percentages were 4,5%, 5,7% and 9,0%, respectively. The same gradient was observed for the MV indicator; for example in GRELL countries MV percentages for lung cancer in age classes 25-59, 60-79 and 80+ were 88.1%, 80.7% and 45.9%, respectively, and were 82.0%, 72.0% and 44.9% in the remaining countries. This trend is further confirmed by the M/I ratio, which was 0.7 - 0.8 - 1.2 in the three age groups for lung cancer in GRELL countries, and 0.8 - 0.9 - 1.1 in the other countries.

Conclusions

The overall data quality in European cancer registries can be considered satisfactory, and the results from GRELL countries are comparable with the other European countries. A preliminary analysis by age group of patient showed possible data quality issues for older age groups that should be further assessed.

POSTER 30: Role of cancer registries as providers of local public health data: estimation of cancer indicators in Occitanie region

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Objectives

Cancer Registries have an important role to play in care management at local level, hence they are regularly approached by the Regional Health Agencies (French acronym ARS). Given the limitations due to cancer registration organization in France and the existence of other partners, each of which has different competencies in the field of health, the pooling of resources between registers and other regional or national institutional partners is often necessary. This work has as objective to give an example of collaboration through health indicators produced at the regional and sub-regional level.

Materials and Methods

This collaboration concerned cancer registries (Tarn, Hérault) of the Occitanie region and the Regional Health Observatory (French acronym ORS). It was aimed to respond to Occitanie-ARS which requested a report dealing with cancer in his region. Discussions between the different partners allowed to summarize the available data and then to specify the contributions of each one. The registries data concern incidence observed in 2 departments (out of the 13 which constitute the region), registries also participate with their national partners to incidence estimation, by department and for specific cancers, which draws on data collected in the Francim network. The ORS analyse regularly both mortality and medical-administrative data of the entire region. Mortality and estimation of incidence was carried out for each department which constitutes the region, taking into account parameters such as sex, age and habitation area (indicator of employment and home-employment flow).

Discussion and conclusions

These partnerships provide indicators at a fine geographic scale, taking into account as well as demographic factors and proxy indicator of access of health care. These results complete the national figures. It contributes to reinforce the dynamic observation of regional cancers.

POSTER 31: Testing an automated tool to identify cases from unstructured free-text medical reports in a Swiss Cancer Registry

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Objectives

The Vaud Cancer Registry receives about 150,000 pathology reports per year which need to be reviewed manually according to whether they describe a pathology requiring registration in the database as "positive reports", or discarded as "negative reports". This study examines the performance of a text mining automated tool (AT) created to scan these free-text medical reports for terms relevant to cancer.

Methods

We developed a custom-made list of 155 keywords including all terms likely to report a positive case in a pathology report, based on existing medical classifications, similar lists and on our working experience within the Vaud Cancer Registry. In order to identify the presence of the different keywords from the free-text of pathology reports in PDF format, we designed and launched an automated search script using Python Software (version 2.7). Additionally, for those reports provided as PDF files in image format, we used optical character recognition software (Adobe Acrobat Pro, version 9). The performance of the AT was evaluated by computing its sensitivity (Se), specificity (Sp), positive predictive value (PPV) and negative predictive value (NPV) based on a sample of 2302 pathology reports, and using the manual review performed by trained specialists as the gold standard.

Results

Of 2302 pathology reports, 742 were positive, 1560 were negative. The AT correctly identified 709 of the 742 positive cases (Se: 95.6%, 95%CI (93.8% to 96.9%)) and 1324 of the 1560 negative cases (Sp: 84.9%, 95%CI (83.0% to 86.6%)). For a prevalence of positive cases of 32%, the PPV was of 75%, 95%CI (72.1% to 77.8%) and the NPV was 97.6%, 95%CI (96.6% to 98.3%). The AT generated 236 false-positive, and 33 false-negative cases.

Conclusion

The AT is a promising tool that could improve greatly the efficiency of tumor registry human resources. Its sensitivity needs to be further improved by adding extra keywords, in order to avoid missing any positive case.

POSTER 32: Pancreatic Cancer Registry of Reggio Emilia Province to monitor the timeliness and appropriateness of treatment

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Aim

To monitor the timeliness and appropriateness of treatment of surgery before and after the implementation of clinical pathway by the high resolution variables of Pancreatic Cancer Registry (PCR).

Methods

129 incident cases and 127 incident cases were extracted by PCR respectively for 2014 (year pre-clinical pathway) and 2015 (year of activation of clinical pathway). We are calculated: time between staging CT scan and surgery, the time and the agreement between cytologic diagnosis and surgery, the percentage of subjects with result of borderline or unresectoable performing neo-adjuvant therapy. The indicator values were compared with the two years by chi-square tests.

Results

The surgery patient are 39 in the 2014 year and 21 in 205 year (30%vs16%, X2 =6,7; p=0,01). The decrease in the surgery is charged to palliative surgery, 19 in 2014 and 6 in 2015, while the borderline subjects undergoing nea-adiuvant chemiotherapy were 7% in 2014 and 45% in 2015 (X2 =4.9; p= 0.026). Among the interventions carried out in province, 11/17 (64.7%) in 2014 and 8/11 (72.7%) were within 30day from CT staging (X2 =0.20; p= 0.66). The surgery patients within 15 days from the reporting date of cytology were 13/33 (39.4%) in 2014 and (9/14) 64% in 2015 (X2 =2.45; p= 0.118). The cytological report agrees with the surgical report in 100% of cases in both years.

Conclusions

The PCR allows the calculation and monitoring of indicator of appropriateness and timeliness of treatment before and after the implementation of a clinical pathway. As early as the first year of implementation of clinical pathway, the data show a significant increase of neo-adjuvant treatment and a decrease in the palliative surgery. The data suggest a modest improvement of timeliness.

POSTER 33: Characteristics at diagnosis and treatments of colorectal cancer in Granada, Spain

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Objective

Colorectal cancer was the most diagnosed cancer in Spain in 2015 in both sexes. The aim of this study is to analyze characteristics at diagnosis and treatments in colorectal cancer.

Methods

All newly diagnosed cases of invasive colorectal cancer in 2011 were obtained from the population-based cancer registry of Granada (South of Spain). Data of diagnostic procedures, stage and treatments were collected from clinical records. Site was classified as right colon (C18.0–C18.5), left colon (C18.6–C18.7), unspecified colon (C18.8–C18.9) and rectal (C19.9–C21.3). Stage were classified from TNM (7th edition).

Results

After excluding cases with unspecified colon subsite (8 cases), 535 cases were included (343 colon and 192 rectal); 60% were men and 30% under 65 years. 46% were stage I-II and 28% were stage IV. Similar percentage was sited in right and left colon (32%), and 36% were rectal cancer. Colonoscopy was done in 83% of patients, CT MRI colonography in 24%, and barium edema in 6%. More than 11 lymph nodes were examined in 61% of cases undergoing non-polypectomy surgery (73% for right colon, 54% for left colon and 56% for rectal). Surgery was performed on 84% of patients, with differences between stages (94% in I to III vs 61% in IV). Hemi-colectomy was performed in 73% of right colon and 21% of left colon. Segmental resection was done in 75% of rectal and 62% of left colon. Chemotherapy was administered on 44% of patients, (25% in stage I; 61% in stage IV). Radiotherapy was indicated in 84 cases out of 192 rectal cancers (44%).

Conclusions

Although nearly half of colorectal cancers were diagnosed in early stages, 28% were detected with metastasis. Surgery was the most used therapeutic procedure in early stages, and chemotherapy was preferred in advanced stages, whereas radiotherapy was an important part of treatment in rectal cancer. The high percentage of cases with enough lymph nodes examined is evidence of a good surgical practice. Funding: HIGHCARE (Exp.: AC14/00036)

POSTER 34: Net survival conditional to absence of recurrence for patient with colon cancer. A population based study

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Background

Survival estimates are traditionally reported as survival from the date of diagnosis. A patient's probability of survival changes according to time elapsed since diagnosis. Conditional survival is the probability of surviving additional y years given alive x years after diagnosis. In this study, the condition 'being alive' has been extended to 'being alive and recurrence-free'. The aim was to estimate 5-year net survival conditional to absence of recurrence (CNS) in patient with colon cancer.

Methods

Our study included 3,736 colon cancers treated for care, between, 1976 and 2006 and registered in the population-based digestive cancer registry of Burgundy (France). Information about recurrences (local or distant) and survival were regularly collected. We calculated conditional 5-year net survival using a flexible parametric model of net survival for every additional year survived after diagnosis from 1 to 5 years.

Results

The overall probability of surviving an additional 5 years (CNS) increased from 72% at diagnosis to 92% in those who survived 5 years after diagnosis without recurrence. The corresponding rates were 90 and 91% for stage I, 76% and 94% for stage II and 52% and 92% for stage III. CNS was similar for stage I to III patients who survived 5 years without recurrence. Stage II patients with less than 12 nodes examined had worse CNS compared to patients with twelve or more (71 vs 82%). The gap between the two groups disappeared at 4 years. In the multivariate analysis the number of examined nodes was a prognostic factor up to 2 years after diagnosis. For stage III, patients with 4 or more positive nodes had initial worse CNS than patients with less than 4 positive nodes (42 vs 57%), CNS were similar from two years after diagnosis in the multivariate analysis.

Conclusion

This study provides, for the first data on CNS in a well-defined population. Prognosis improves over time for almost all groups of patients especially in those with stage III.

POSTER 35: A new definition of the 'time to cure' derived from population-based cure models

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Objectives

Cure models adapted to the net survival context provide important indicators from population-based cancer data, such as the cure fraction. There is no consensus on the method to estimate time to cure (the time from which net survival reaches a plateau at the cure fraction) using cure models. The aim of the present work is to propose a new definition for the time to cure and to compare it with the two existing definitions on well-chosen real-data set examples.

Material and methods

Cases of colon-rectum, pancreas, breast or thyroid cancer, diagnosed between 1995 and 2010, registered in the FRANCIM database and aged 15-74 were followed-up 15 years or until 2013. Flexible parametric cure models allowed estimating probability P(t) for each individual to be cured at time t after diagnosis. We defined time to cure as TTC, the time from which $P(t) \geq 0.95$. We also provided T95, the time at which the survival of the uncured (Su) reaches 0.05 and TCNS, the time at which 5-year conditional net survival (CNS) reaches 0.95. We compared the values of P(t), Su(t), and CNS(t) for t= TTC, T95, and TCNS.

Results

Except for colorectal cancer, T95 either underestimated or overestimated time to cure. TTC and TCNS were coherent for pancreatic cancer (8 to 10 years (y) depending on age and sex) and for young thyroid cancer patients (0 y). For breast cancer, TCNS was not reached within 10 y after diagnosis and TTC ranged between 11 and 12 y depending on age. For older thyroid cancer patients, TCNS was lower than TTC: 2 vs. 8 y in [55-65[men and 1 vs. 10 y in [65-75[women. In these cases, the net survival curves showed an early temporary plateau that did not correspond to the cure fraction.

Discussion and conclusions

The new definition of time to cure based on individual probability of being cured (TTC) seems the most intuitive and natural. TTC also presents the advantage of being the less sensitive to early mortality from cancer than T95 and of needing a shorter follow up than TCNS.

POSTER 36: Two-decades of trends in epidemiology of cancers of unknown primary site in the Manche french district

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The prognosis of cancers of unknown primary site (CUPS) is known to be extremely poor because CUPS are usually diagnosed on the metastases. This study examines the long-term trends in incidence, diagnosis, treatment and survival of patients diagnosed with those cancers in the Manche department.

We studied all CUPS diagnosed between 1994 and 2014 and registered by the Manche Cancer Registry. The incidence rates were standardized on the world population. All analysis and statistics are performed with the R soft programming language.

In total, 1210 patients with CUPS were identified, of which 57% were male. Mean age at diagnosis significantly increased from 68 to 76 years. The incidence rate of C80 in the Manche decreased significantly for both sexes between 1994 and 2014 : -6 % per year for men and -4.5 % per year for women ($p = 0.001$). The incidence rates varied from 10.4 per 100 000 men and 4.7 per 100 000 women in first period (1994-1998) to 4.6 per 100 000 men and 2.2 per 100 000 women in last period (2009-2013). The CUPS represented 2.7% of solid invasive tumours in first period but only 1.3% in last period. Even if 40% of CUPS were adenocarcinoma, the proportion of CUPS versus cancers of known primary was maximal for sarcoma and soft tissues tumours (21.7%) and for unspecific tumours (12.6%) or unspecific carcinomas (13.2%). 90% of CUPS were diagnosed on symptoms, principally because of metastases (24% liver, 10% lung, 10% pleura, 9% bone, 8% peritoneum). Only ¼ of patients undergone surgery (metastasis, ganglion or comfort surgery) and ¼ received chemotherapy or radiotherapy treatments. Incidence and proportion of histological proof of CUPS decreased during the two decades of the study. Overall survival of patients with CUPS remained low, because ¼ of patients were not cared (refusal, monitoring or death).

In the future, improving knowledge on histological forms of CUPS will turn to emerging therapeutic strategies to improve the prognosis in those cancers.

POSTER 37: Urinary tract tumors: impact of recording non-infiltrating tumors and multiple tumors on incidence

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Introduction

Because of their evolving and recurring nature and change of rules concerning the incidence, recording and accounting of urothelial tumors (UT) remains difficult. These difficulties are responsible for disparities between registries and for the same registry over a long period. Indeed, the incidence of bladder tumors is still often presented separately from other urinary sites and limited to infiltrating tumors.

Objective

1.To illustrate the impact of the definition of recorded UT on the number of cases counted in the incidence;
2.To quantify the proportion of tumors recurring at another site of urinary tract and tumors evolving on the same site.

Method

The Tarn registry, operating since 1982, collected the progression of all UT (C65-C66-C67-C68, all behaviors) from 1990 to mid-1992. The number of UT counted in the incidence was determined from several rules (whether or not there were non-infiltrating tumors, multiple tumors and a history). Follow-up allowed quantifying recurrences elsewhere and tumors that worsened. The clinically relevant transition to pT2 was also studied.

Results

342 UT (all behaviors) were recorded in 329 patients in 1990-1992 including 11 with a history of UT. Depending on the chosen rule, the number of UT counted in 1990-1992 ranged from 223 to 336. In 25 years of follow-up, 5% of the patients presented at least a recurrence elsewhere; 17% of non-infiltrating tumors became infiltrating over time and 8% of non- infiltrating or pT1 tumors eventually exceeded bladder muscle.

Conclusions

Recording of detailed information makes it possible to document the recurring and evolving character of UTs. This may concern all cancers for which the notion of evolution is of interest, which encourages registries to record cases at different times of their evolution. However, such an evolution of registration multiplies the possibilities for publication of the incidence. It must therefore be accompanied by clear and strict rules for the spreading of data.

POSTER 38: Survival of patients diagnosed with bladder cancer with respect to their history of previous cancer

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Objective

To investigate the survival of patients with bladder cancer with respect to their previous history of cancer.

Materials and methods

All cases of invasive bladder cancers diagnosed between January 1989 and December 2010 in 13 French cancer registries were included. Vital status was updated until June 2013. Consolidated data about tumour rank were used to make the distinction between first cancer and subsequent bladder cancers. Kaplan-Meier method was used to analyse 5-year observed survival from the date of bladder cancer diagnosis. Cox regression models were used to study, by gender, the association between previous history of cancer and observed survival adjusting for age and calendar period of diagnosis.

Results

A total of 24,961 cases of invasive bladder cancers were analysed. Among included patients, 11.4% of males and 8.9% of females presented a history of previous cancer. In males, first primary cancers were most frequently located in prostate, lung or colon, whereas in females most frequent sites of first cancer were breast, corpus uteri and colon cancers. Patients with no previous history of cancer presented a 5-year overall survival of 46.3% (95% CI 45.5-47.1) in males and 37.0% (95% CI 35.6-38.5) in females. Among males with a history of previous cancer, 5-year overall survival ranged from 16.4 % (95% CI 9.0-29.7) after a first stomach or oesophagus cancer to 37.7% (95% CI 30.9-45.9) after a first colon cancer. In females, survival ranged from 15.0% (95% CI 7.2-31.4) after a first corpus uteri cancer to 33.6% (95% CI 26.3-42.8) after a first breast cancer. Multivariate Cox regression models showed that previous history of cancer was an independent prognosis factor ($p<0.001$).

Conclusions

Previous history of cancer adversely affects the survival of patients diagnosed with invasive bladder cancer. These results might be a significant contribution for clinical counselling and could be taken into consideration for therapeutic management.

POSTER 39: Trends in the risk of second primary cancer among patients with tobacco-related cancers

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Objective

To determine whether the risk of second primary cancer among patients with tobacco-related cancers (TRC) changed over past decades.

Materials and methods

Data from 13 French population-based cancer registries were used to establish a cohort of all patients diagnosed with a first TRC between 1989 and 2010 and followed up until June 2013. IARC classification was used to define three groups of cancer sites according to the strength of their association with tobacco consumption (strongly, moderately or weakly TRC). Standardised incidence ratios (SIRs) of metachronous second cancer were estimated by calendar period of first cancer diagnosis. Multivariate Poisson regression models were then used to model the ratio of SIRs by calendar period of diagnosis, adjusting for sex, age and follow-up.

Results

This cohort included 260,590 patients, from which 23,023 (8.8%) developed a second cancer. A significant increase in the SIRs by calendar period was observed for strongly TRC sites of second cancer after a first moderately TRC. The ratio of SIRs between the last (2005-2010) and the first period of diagnosis (1989-1994) was 1.21 (95% CI 1.08-1.36). This may be due to a strong increase in the risk of second cancer of the lung or larynx in bladder cancer survivors. Interestingly, we observed an increase in the risk of strongly and moderately TRCs in patients with a first weakly TRC. The corresponding ratio of SIRs were 1.28 (95% CI 1.07-1.54) and 1.17 (95% CI 1.01-1.37). This may be explained by an increase in the risk of second cancer of the lung after a first colorectal, kidney or cervix uteri cancer. No significant decrease in the risk of second TRC was observed here.

Conclusions

Given that the risk of second TRC remained at best unchanged, effective smoking cessation interventions should be established and promoted among tobacco-related first cancers survivors. Patients with a first cancer weakly related to tobacco should not be neglected in this perspective.

POSTER 40:Local indicators of socio-economic-health deprivation and oncological mortality: a tool for targeted preventive actions

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Aims

In a study designed to carry out targeted advocacy for influenza vaccination in the elderly (65+) Socio-Economic-Health Deprivation Index (SEHDI) were calculated for the cities of Genoa, Florence, Siena, Ferrara, Rome, Foggia, Cagliari, Sassari, Palermo and for an area consisting of small towns in Veneto. The goal was to demonstrate how the SEHDI were able to identify the relationship between cancer mortality and Socio-Economic status (SE) of populations.

Materials and methods

For the construction of SEHDI, we considered the SE data by census tract section and municipality (ISTAT Census 2011). The method of calculating the SEHDI used overall mortality (2009-15) to select the SE component variables. After identifying the population of deprivation gradients, we analyzed the distribution of the SMR by cause, sex and age groups of 0-64 and 65+ years in the area of population clusters (statistical significance, F test at $p < 0.05$).

Results

The mortality for some oncological diseases was analyzed by SEHDI. As example, here some results of Palermo are shown. Deaths by colon-rectum cancer were distributed according to a linear trend with increasing deprivation in males 0-64 years (SMR 0.47 to 1.43) and decreasing in 65+ years in both sexes (males SMR 1.26 to 0.57; SMR females 1:28 to 0.59). For the female breast increasing SMR by deprivation were observed in 0-64 years (SMR 0.55 to 1.57) and non-linear trend in the 65+. The observations are consistent with the literature. Conclusions The method of calculating the SEHDI allows a classification of the population according to SE gradients associated with the area of health. The ability to highlight the relationship between cancer causes and geographical distribution of deprivation makes SEHDI an interesting tool to drive targeted prevention measures appropriate to the SE features of different population groups.

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POSTER 41: Deaths due to suicide among cancer patients in Romagna (Italy)

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Objectives

To evaluate the risk of deaths due to suicide among cancer patients in a population-based cancer registry.

Materials and methods

We retrieved from the Romagna Cancer Registry (Italy) 128,147 cancer patients (all cancer sites out of non-melanoma skin) diagnosed from 1996 to 2012. Death certificate-only cases (N=2,403) and autopsy-only diagnosed (N=128) were excluded. Patients with multiple cancer cases were included; the index cancer was defined as the chronologically last cancer. The eligible cases (N=116,304) have been followed until death or 31/12/2013. Deaths due to suicide have been identified according to specific codes of the International Classification of Diseases: E950-E959 of the ninth edition and X60-X84, Y870 of the tenth edition. Observed deaths due to suicide have been compared with the expected ones based on the regional (Emilia Romagna) general population death rates in the same period. Standardised mortality ratios (SMR) specific for sex, age groups, cancer prognosis, time since diagnosis, altitude of the municipality of residence have been computed.

Results

Deaths due to suicide represent 0.2% (N=128) of all the deaths among cancer patients in the analysed cohort (N=64,609). Cancer cases incident during 1996-2012, showed SMR= 1.44 ($p<0.001$), higher among men (SMR=1.54), among people older than 54 years (55-64 years, SMR=1.97), for tumors with the worst prognosis (SMR=2.36), and in the first year after diagnosis (SMR=3.10). The SMR is particularly high for pancreas cancer patients (SMR=9.88) and multiple myeloma (SMR =3.92). The risk has decreased over time being lower in patients diagnosed more recently.

Conclusion

Deaths due to suicide among cancer patients are not a major public health problem. However, they not only affect patients but have strong negative effects also on their families, relatives, and health care providers. Therefore, it is necessary to monitor them trying to identify unmet needs for prevention and support.

POSTER 42: Descriptive study of pancreatic cancer in the province of Castellón (Spain) 2004-2013, stage and survival.

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Introduction

The EUROCARE 5 study consider pancreatic cancer among those having the worst prognosis, suggesting a better descriptive knowledge by population registries.

Objective

To describe the characteristics of the cases registered in the province of Castellón, such as diagnostic base, age groups, sex, stage and survival

Material and methods

The characteristics of the cases diagnosed (ICD-10: C25) in the period 2004-2013, age, sex, diagnostic basis, histological type, location (defined according to the International Classification of Diseases for Oncology, 3rd Edition) and stage TNM 7th edition are described. ASRw and ASRe incidence rates are calculated. Both the observed survival and the relative survival estimate at 3 and 5 years are calculated using the Ederer II (Pohar-Perme) method using the R statistical software. The follow-up is mixed, passive through crossing with the IND (Indice Nacional de defunciones [Spain]) and active in all the alive cases, being the end date of study 31-12-2013.

Results

The number of incident cases is 604, women 44%, the ASRe incidence rate of 8.1 (7.4-8.8); ASRw 5.5 (5.0-6.0). Age group : + 75 years, 38%; 65-74, 29%; 50-64, 27%; <50 years, 6%. The proportion of diagnoses based on microscopically verified (MV) specimens is 61%; Image, 36%; DCO (death certificate), 3%. The most frequent histology is adenocarcinoma SAI 69%. We have a tumor stage 62% of the cases (Stage IV, 47%; Stage III, 6%; Stage II, 6%; Stage I, 3%). Of the age group + of 75 years, only 35% (MV) and presents the greatest proportion of unknown stage: 52%. Per year of incidence, it is from 2010 when the information of the extension is recovered in near 80% of cases. Survival SR is 9% at 3 years (CI95%, 6-12) and 6% at 5 years (CI95%, 4-10).

Conclusions

Pancreatic cancer in our province is diagnosed in advanced stages, the age group from 75 years is the one with the worst variables of interest, our values are within the range presented by Eurocare 5.

POSTER 43: Clinicopathological characteristics of skin melanoma and factors associated with tumour thickness in Navarre, Spain

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Objectives
Melanoma is an increasingly important public health problem. Thickness is the major prognostic indicator for patients with melanoma. This study aims to describe the clinicopathological features at diagnosis of invasive skin melanoma in Navarre, Spain, and to examine factors related to tumour thickness.

Methods
Incident cases of invasive skin melanoma diagnosed in 2011-2013 were selected from the population-based Navarre Cancer Registry. Detailed clinical and pathological information was collected. Categorical variables were compared by chi square test. Associations with tumour thickness were assessed by multivariable linear regression analysis.

Results
A total of 304 patients were included, 52% females. The median age was 65 years (range 21-94), with no difference by sex. In men, the most common primary sites were the trunk (47%) and the head and neck region (31%), while in women were the trunk (31%) and the lower extremities (31%). The most frequent histological subtype was the superficial spreading melanoma (42%) followed by lentigo maligna melanoma (20%). Overall, 68% of the cases were stage I, 19% stage II, 10% stage III and 3% stage IV. The median Breslow thickness was 0.7 mm (range 0.1-12 mm), 63% of the melanomas were T1, 12% T2, 13% T3 and 13% T4. A higher proportion of men had thick melanomas (17% of tumours 2.01–4.00 mm and 15% >4 mm) compared to women (9% and 10%, respectively), p=0.039. Patients ≥65 years had more frequently thick lesions, with 19% of tumours >4 mm versus 5% in those <65 years (p=0.001). In the multivariate analysis, increasing age and nodular and acral lentiginous subtypes were independently associated with higher tumour thickness.

Conclusions
Public campaigns for prevention and awareness of the warning signs of melanoma and the importance of early detection are advisable, and should be aimed particularly at men and older population who tend to be diagnosed with thicker tumours. Funding: La Caixa 2015, CIBERESP.

POSTER 44: Survival in the Central region of Portugal in some selected topographies: 2003-2010

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Objectives

Survival analysis using population-based data is vital for the evaluation of cancer care practices. Survival from cancer has been improving in Europe. We aimed to compare cancer survival in the Central region of Portugal between 2003-2006 and 2007-2010 for some selected topographies.

Methods

Data on 8,343 individuals (> 14 years old) with a diagnosis of an invasive cancer of the breast, cervix, ovary, prostate, stomach, colon, rectus, liver and lung were collected from the Registo Oncológico Regional do Centro and followed until 31/12/2014. The 5-year net survival (NS) stratified by period of diagnosis, 2003-2006 (P1) and 2007-2010 (P2), and the correspondent 95% confidence intervals (CI) were estimated by the method proposed by Pohar-Perme. Mortality tables were those created by the CONCORD-2 project.

Results

For women: breast, NSP1=0.88 (CI: 0.86-0.89) vs. NSP2=0.90 (CI:0.88-0.91); cervix, NSP1=0.68 (CI:0.64-0.73) vs. NSP2=0.67 (CI:0.62-0.71); ovary, NSP1=0.52 (CI:0.46-0.58) vs. NSP2=0.43 (CI:0.38-0.49); stomach, NSP1=0.45 (CI:0.41-0.49) vs. NSP2=0.38 (CI:0.34-0.42); colon, NSP1=0.66 (CI:0.62-0.69) vs. NSP2=0.66 (CI:0.63-0.69); rectus, NSP1=0.59 (CI:0.55-0.64) vs. NSP2=0.63 (CI:0.59-0.68); liver, NSP1=0.12 (CI:0.04-0.20) vs. NSP2=0.17 (CI:0.09-0.26) and lung, NSP1=0.32 (CI:0.27-0.37) vs. NSP2=0.28 (CI:0.23-0.32). For men: prostate, NSP1=0.84 (CI: 0.82-0.85) vs. NSP2=0.87 (CI:0.85-0.88); stomach, NSP1=0.30 (CI:0.28-0.33) vs. NSP2=0.30 (CI:0.28-0.33); colon, NSP1=0.58 (CI:0.55-0.60) vs. NSP2=0.55 (CI:0.53-0.58); rectus, NSP1=0.57 (CI:0.53-0.60) vs. NSP2=0.56 (CI:0.52-0.59); liver, NSP1=0.19 (CI:0.14-0.25) vs. NSP2=0.21 (CI:0.16-0.26) and lung, NSP1=0.20 (CI:0.17-0.22) vs. NSP2=0.14 (CI:0.12-0.16).

Conclusions

No notorious differences were found between the two periods, except for lung cancer in men. Maybe more aggressive tumours are being diagnosed, although lack of information on tumour stage at diagnosis limits the interpretation of the results.

POSTER 45: Wondering the burden of rare cancers in Europe: the RARECAREnet user friendly search tool is now available online!

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Objectives

RARECAREnet project updated the RARECARE epidemiological indicators for rare cancers.

Methods

From the EUROCARE-5 database we selected 94 cancer registries (CRs) providing incidence data to 2007 and follow-up at 31/12/2008. For 198 rare entities we calculated incidence and relative survival (RS) in Europe considering cases diagnosed in 2000-2007, age-adjusted incidence and RS over time, in Europe, during 1995-2007. We also estimated the number of new cases in 2013 and complete prevalence (counts and proportion) at 1/1/2008, in Europe (EU-28). Estimates by age and sex for Europe and by region (UK&Ireland, Northern, Eastern, Central and Southern EU) and Country, can be consulted in the RARECAREnet online search tool available at http://app.rarecarenet.eu/. SEER*Stat software was used for the analyses.

Results

We provide indicators for 27 Countries, 6 of them are in the GRELL (Belgium, France, Italy, Portugal, Spain and Switzerland). We estimated about 600,000 new diagnoses of rare cancers in Europe and 5 million prevalent rare cancer cases. The corresponding figures for France and Italy were 80,000 and slightly less than 600,000, and for Switzerland 10,000 and 77,000. In the GRELL Countries, incidence rates (per 100,000/year) for rare cancers considered together ranged from 88 (Portugal) to 142 (Italy) and 5-year RS varied between 48% (France) and 54% (Italy).

Conclusion

Country-specific epidemiological indicators on rare cancers are important for public health, research and clinical organisation. Some GRELL countries already have or are producing a national plan for rare cancers then these results are an important starting point. For the first time the burden of each rare entity is publicly available online, it is easy to handling and we strongly suggest to use it for describing and studying rare cancers. CRs' quality data is crucial, it have to be maintained and even improved. This work was supported by the European Commission.

POSTER 46: Thirty year trends in survival of cancer among children and adolescents in C.Valenciana region, Spain

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Background and objectives

Cancer is the second cause of death in children and adolescents but survival in children has increased significantly in malignant neoplasms over the years. This study aims to analyse trends in survival of cancer among children and adolescents in the C. Valenciana region over the period 1983-2013. The catchment population comprises 10.5% of the Spanish population in this age range.

Materials and methods

This is an observational retrospective analysis of epidemiological cancer survival trends in childhood and adolescents, by sex, age group, provinces, year of diagnosis and main group diagnostic and subgroups. Data was obtained through the population-based Childhood Cancer Registry of our region. Patients were followed up until the 31 of December 2015. 5 year observed survival (5y-OS) was analysed using the Kaplan-Meier estimator and the software used was R.

Results

Cases included 3689 children and adolescents with cancer diagnosed between 1983 and 2013.The 68 % were alive at the closure of follow up. Overall 5y-OS were 71.5 (95% CI: 70-73).There weren´t differences in 5y-OS by sex and provinces. By age, survival was fairly similar between groups, excluding infants whom had worse 5y -OS 69 (95% CI: 65-75). Analysed period diagnostic survival was significantly higher in last years 81% than earlier 63 %. By group and subgroups diagnostics, the survival was significantly higher for Leukaemia 76% and Lymphomas 85%. Survival trends increased in leukaemia 11%, no Hodgkin lymphoma 9% and Burkitt lymphoma 9%. Against, bone tumours and Intracranial embryonal tumors had poorer survival all the period the 62% and the 46% respectively.

Conclusions

Significant improvements in the survival have been achieved over the last thirty years, as a result of advances in diagnosis and therapies. However, some groups like bone tumours and intracranial embryonal tumors have not seen great improvements. Moreover, survival is lower for infants than for other age groups

POSTER 47: Trends in cancer in the elderly population in the Northern Region of Portugal: a comparison between two time periods

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Objectives

Age is one of the major risk factors for developing cancer. With an increasingly aging population, the aim of this study was to characterize the elderly cancer population (65 years-old or more) of the North Region of Portugal, comparing two time periods: 2001/05 and 2006/10.

Materials and methods

Data were collected from RORENO database and used to calculate age-group specific incidence rates of and net survival from the most frequent cancer sites in Northern Portugal. Net survival was estimated using the Pohar-Perme estimator.

Results

Incidence rates for multiple myeloma more than doubled in both sexes in the age-group 75+. Also, for two tumours with low expression in men (brain and thyroid), the 75+ specific incidence rate in the last period was more than two times the former period incidence. Oesophagus and stomach cancer showed no major variations in incidence over time, while for prostate cancer an important increase was observed but only for those aged 65-74 (+16%). For women, an increase in incidence was observed for thyroid and lung cancer, whereas for cervix cancer its incidence decreased in both age groups. A significant improvement in net survival for both age-groups was observed for stomach, colon and lung cancers. For larynx, breast, brain, prostate and non-Hodgkin lymphoma improvements were only observed for patients aged 65-74 while for cervix cancer this was only observed in the oldest age group. For all other cancers no significant changes were observed in neither age groups.

Discussion and conclusions

Due to population aging and an increased life expectancy it is predictable that the number of elderly cancer patients will increase, arising as a public health issue. Also, improvement of survival indicates that, in the future, more elder people will live with cancer. This brings forth the necessity to adapt clinical practice to meet the specific needs of these patients, focusing on treatment and management of their condition.

POSTER 48: Potential benefits of surgery on pancreatic cancer prognosis

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Objectives

Pancreatic cancer (PaC) is one of the most lethal malignant tumors, especially in developed countries. Surgical resection is the only treatment that can provide a cure, however it is performed in less than 20% of all patients. The main objective of this study was to investigate benefits of surgical treatment in the prognosis of PaC patients in Northern Portugal.

Materials and methods

The study cohort was provided by RORENO and included all epithelial invasive pancreatic tumors diagnosed between 2007 and 2011. Association between surgery and demographic and clinical variables was assessed using multivariable logistic regression. Associations between surgery and overall survival stratified by sex, age-group and stage, were estimated using Cox regression models.

Results

A total of 1211 cases were found eligible for analysis. The median (P25-P75) age was 69 (60-77) years, and 56.8% were male patients. Five year overall survival rate was 6.7%. From this cohort, a subgroup of cases with information on surgery was analyzed (n=710). Patients in this subgroup were slightly younger, but sex distribution and overall survival were similar to the full cohort. Resection rates varied from 22.3% to 78.3% in patients with stage III-IV or I-II, respectively. The odds of not receiving surgery increased with age and stage ($P<0.001$), while it was not significantly associated with sex. Surgical treatment was associated with better overall survival (HR=0.49; 95%CI: 0.42-0.58); even for patients that normally are not considered eligible for resection, like older patients (70-79 years; HR=0.51; 95%CI: 0.39-0.66), and those with stages III-IV (HR=0.74; 95%CI: 0.60-0.93).

Discussion and conclusions

Surgery in PaC patients is associated with improved survival, even in patients that are older or have more advanced stages of the disease. However, it is was not possible for us to consider some confounders like comorbidities and performance status that might also impact outcomes.

POSTER 49: Hodgkin and Non-Hodgkin Lymphomas – Preliminary Results

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Objectives

The aims of this study were to describe epidemiology of different lymphoma types in South Portugal cancer registry (ROR-Sul) region; to identify patterns: diagnostic, staging, prognostic index, treatment and to characterize clinical outcome for each subtype.

Material and Methods

Cancer cases diagnosed in 2013 in ROR-Sul geographical area (South Portugal and Madeira Island) were included according to histology (Hodgkin and Non-Hodgkin lymphoma). A multicentre retrospective population based study was taken and patients were followed up until 31st December 2016. 1149 cases of lymphomas were identified in patients aged 15 or more who were diagnosed in 2013 in ROR-Sul region.

Results

Non-Hodgkin Lymphomas are much more frequent (9 times higher). Unspecified Hodgkin lymphomas were about 20% and Non-Hodgkin about 11%. Demographic and histological characteristics for both types were distributed according to literature. Prognostic index IPI and FLIPI showed 20% missing information (Ann Arbor 7%). Survival in DLBCL according to prognostic index and therapy were in accordance with the expected (better prognosis or Rituximab better survival). In Follicular lymphomas 81% of the cases were treated with Rituximab having higher survival.

Discussion and conclusions

Although this epidemiological study is still going on and presents some limitations we found that epidemiological pattern is somehow similar to European population and that the subtype's distribution is typical of the occidental world. A minimum follow-up of 3 years showed a survival of 82% for Hodgkin Lymphoma and Non-Hodgkin DLBC Lymphoma of 69% when using R-CHOP therapy. There are a significant number of cases with unspecified histological subtype, lack of staging and information on prognostic factors. Also it is important to stratify the results by risk factors and region and evaluate the use of relative survival instead of observed survival.

POSTER 50: Cancer registration in Europe: the ENCR-JRC project "Incidence and Mortality in Europe"

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Objectives

The European Network of Cancer Registries (ENCR) and the European Commission's Joint Research Centre (JRC) are collaborating on the "Incidence and Mortality in Europe" project for estimating the cancer burden and filling existing gaps in the population coverage of Europe (following the UN definition and including 48 countries). The objective of this study is assessing the current cancer registration in Europe.

Methods

We considered all population-based cancer registries (CRs) on all cancers and all ages that participated in the ENCR-JRC project, submitted data, and responded to the data call questionnaire. The data collection was launched in July 2015.

Results

Almost 80% of all data submissions have been started in the first year of the data call. A total of 115 CRs from 28 European countries participated so far in the project. Of these, only 19 (17%) are national CRs, while the remaining 96 are regional CRs from 9 countries. In Portugal and UK the regional CRs cover altogether the national population. The incidence data included in the analysis covered 48% of the European population, as opposed to a theoretical coverage of almost 68%. The total number of incident cases collected so far is 28,537,750, 94% of these being malignant tumours. Eastern Europe contributed with 7 CRs totalling 21% of incident cases (covering 38% of the population in that area), Northern Europe with 10 CRs and 30% of cases (population coverage 80%), Southern Europe with 64 CRs and 32% of cases (population coverage 44%), and Western Europe with 34 CRs and 32% of cases (population coverage 49%).

Conclusions

After validation and quality feedback to each CR, the data will be used for estimating the cancer burden in Europe. The overall population coverage of the ENCR-JRC project at European level can be considered satisfactory. Identification of additional registries and incentives to participation are pursued, in view of the current and next ENCR-JRC data call.

POSTER 51: European High Resolution studies: patterns of care for breast, colorectal, lung cancer, skin melanoma and NHL patients

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Objectives

The High Resolution studies collect more clinical information than those routinely available to cancer registries (CRs) for random selected cancer cases, aiming to study patterns of care and adhesion to evidence based guidelines for diagnosis and treatment. The present study analyses in 6 GRELL countries [Belgium, France, Italy, Portugal, Spain, Switzerland] one indicator of standard treatment for patients (≥15 years) with cancer of the breast (BC), colon (CC), lung (LC), skin melanoma (MEL) or NHL diagnosed in 2009-14.

Materials and methods

The following indicators were considered for the CRs with <30% of unknown information in the analysed variables: - Neo-adjuvant chemotherapy (CT) in 1301 stage III BC cases - Adjuvant CT in 2757 stage II/III CC cases who underwent surgery - Curative surgery in 458 stage I-II non-small LC (NSLC) cases - Sentinel lymph node biopsy (SLNB) in 898 cases with ≥1mm MEL - Targeted therapy (TT) in 272 follicular (FL) and 531diffuse large-B cell (DLBCL) lymphoma, after excluding cases with watchful waiting decision.

Results

22% (17 out of 19 CRs: 8% Italy-39% Portugal) of stage III BC underwent neo-adjuvant CT 41% (15 out of 17 CRs: 25% Switzerland-46% Italy) of stage II/III surgically treated CC received the adjuvant CT. 67% (5 CRs: 56% Portugal-74% Switzerland) stage I-II NSLC underwent curative surgery 66% (7 out of 8 CRs: 51% Italy-74% Portugal) ≥1mm-Breslow MEL underwent SLNB 81% (5 out of 6 CRs: 71% Italy-84% Spain) FL and 76% (66% Italy-85% France) DLBCL underwent TT.

Conclusions

Differences in the adhesion to clinical guidelines persist in Europe, likely attributable to different availability of resources and health systems organisation. Updated analyses will be carried out at the end of data update and correction.

POSTER 52: Socio-economic status and stage at diagnosis in breast cancer in France

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Objective

Over-incidence in breast cancer is observed among the most advantaged women in France. However, breast cancer mortality remains higher in the most deprived. This allows hypothesizing that earlier diagnosis is reached among more advantaged women. Besides, breast cancer in France benefits from a national screening program targeting women aged 50-74. It is though of interest to study the influence of screening on the relation between early diagnosis and socio-economic status. To further analyse these phenomenon, this work aims at studying the relation between stage at diagnosis and socio-economic status among different age groups in breast cancer.

Methods

Data from 3 French cancer registries (Tarn, Hérault and Haut-Rhin) that collected stage at diagnosis according to standardized methods on a sample of invasive breast cancers in 2013 were analysed. Stage was evaluated using the French ENCR condensed TNM. Socio-economic evaluation was based on the aggregate European Deprivation Index (EDI) (national quintiles). Repartition of frequencies and comparisons of proportions of qualitative variables were analysed using the exact Fisher or the Chi-2 test.

Results

Among 277 invasive breast cancers, 61% were aged 50-74, 62% were localized stages at diagnosis and 26% concerned the most deprived women. Localized stages were more frequent among women aged less than 75. In the whole women, the relation between stage at diagnosis and EDI was not significant. In women aged less than 75, in particular aged 50-74, the repartition of stage at diagnosis did not vary according to deprivation quintiles. In women aged 75 and more, an advanced stage was significantly more frequent among the most deprived women.

Conclusions

Socioeconomic status among the 50-74 age group seems to be homogeneous whatever stage localized or advanced. However, results are limited by the low number of cases. It would be interesting to enlarge these analyses to other French and European cancer registries.

POSTER 53: A cross-linkage between hemopathology expert central review and cancer registry to improve incident lymphoma registration

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Context

The national pathology network dedicated to lymphoma (LYMPHOPATH) is a French network of expert hemopathologists that allows reviewing the diagnostic elements of approximately 10,000 cases of lymphomas a year. To date, there has been no cross-linking between the LYMPHOPATH and cancer registry databases. Reviewing lymphomas diagnosis is of vital importance for population-based registries to affect the most accurate code to the disease and to improve the quality of incidence rates by lymphoma subtypes.

Objective

To test the feasibility of finding a subject, for which a diagnosis of lymphoid malignancy would have been made during 2010-2012, in both Gironde's hematological malignancies registry and the LYMPHOPATH database.

Method

The study population included all Lymphoma cases diagnosed in the Gironde area during 2010-2012. Two levels of matching were performed: 1) from the sampling numbers and 2) from the 14 probabilistic matching algorithms, if the sampling number is not available or if step 1 fails.

Results

For the year of incidence 2012, 642 incident lymphomas cases are eligible in the registry. Of 642, 345 were diagnosed on histological examination of a biopsy and are therefore potentially included in the LYMPHOPATH database. 273/345 patients were recovered (79%), 229 (84%) with sampling number and 44 (16%) with the algorithms. 70 (26%) of the 273 recovered cases had a morphological code divergence between the registry and the LYMPHOPATH database. Of these divergences, only 21 would lead to a modification of lymphoma subtype incidence because the LYMPHOPATH diagnosis was changing the grouping (ex: Marginal zone lymphoma versus Diffuse Large cell lymphoma). In most cases the divergence do not lead to change in incidence . Additional results will be available by the end of April '17.

Conclusion

Cross-linking the registry and LYMPHOPATH databases is feasible. Its general implementation in the cancer registry network (FRANCIM) would make it possible to control the quality of coding.

POSTER 54: THE BURDEN OF RARE TUMORS IN THE CITY OF SÃO PAULO, BRAZIL

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Objective

To evaluate the incidence of rare cancers and compare the demographic, anatomical and histological characteristics between rare and non-rare (common) cancers in São Paulo, Brazil.

Methods

Data were from the population-based registry of the city of São Paulo, Brazil, in the period 1997-2012. Rare cancers were defined according the list made by RARECAREnet, as a combination of topographical and morphological codes of the ICD-O-3, based on the criterion of cancers that have an incidence lower than 6/100,000/year. Crude incidence rates were calculated as the number of all cancers occurring in 1997-2012 divided by the overall population at risk, for males and females (also for gender-specific tumours). Incidence by age and the proportion of rare cancers out of the total cancers were also calculated.

Results

There were 20.4% of tumors with an incidence lower than 6/100,000/year in the city of São Paulo from 1997 to 2012, therefore considered as rare tumors. Eleven neoplasms with an incidence greater than 6/100,000/year (common) and 186 with an incidence lower than 6/100,000/year (rare) were identified. The mean annual incidence of all cancers was 365/100,000 in São Paulo between 1997 and 2012, and the incidence of rare tumors was 74.5/100,000. Rare tumors were predominant in the age groups up to 24 years.

Discussion/conclusions

The rare tumors represent an expressive relevant percentage of cancer cases (20.4%) in the city of São Paulo, next to the percentage observed in Europe (22% - 1995-2002) and higher than those in Italy (15%: 1995-2002) and Japan (15%: 1998-2007). In relation to age, rare tumors were predominant in young people under 24 years of age in São Paulo, whereas they predominated in young people under 35 years of age in Europe, Italy and Japan. This study showed the burden dimension of rare tumors in Brazil for the first time which may contribute to evaluation of these entities for a more effective diagnostic and therapeutic approach.

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