Variations in death rates after surgery for oesophageal and gastric cancers

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A pilot study has shown large variations between European countries in patient survival after surgery for oesophageal and gastric cancers. The 2013 European Cancer Congress (ECC2013) [1] will hear today (Tuesday) that the reasons for these differences are not clear and cannot be explained simply in terms of the volume of patients treated at each hospital.

Numerous previous studies have shown that hospitals that see and treat the highest numbers of patients for a variety of diseases and conditions ranging from cancer to cardiology tend to have greater expertise, resulting in better outcomes for the patients they treat. However, this latest study shows that this is not necessarily the full story, and, as a result, Dr Johan Dikken (MD, PhD), a surgical resident at the Leiden University Medical Center and the Medical Center Haaglanden (The Netherlands), will tell the congress that European cancer surgeons have launched a new initiative – the European Upper GI Cancer Audit (EURECCA Upper GI) – to find out the reasons for the differences between countries.

The pilot study, which ran between 2004 and 2009, examined outcomes after 10,854 surgical operations for oesophageal cancer and 9,010 operations for gastric cancer in The Netherlands, Sweden, Denmark and England. It looked at how survival 30 days after surgery was related to the volume of operations carried out at each hospital in the four countries.

"The study confirmed that hospitals that treated the highest numbers of patients tended to have better outcomes after surgery for oesophageal and gastric cancer," Dr Dikken will say. "However, differences in outcomes between several European countries could not be explained by existing differences in hospital volumes. To understand these differences, we have set up the European Upper GI Cancer Audit and we are developing uniform data registration. It will require a lot of effort to harmonise and synchronise data between countries before proper analyses can be performed.

"We have developed a dataset of approximately 40 items, which is the minimum required information from all countries, and we are also including more European countries in the initiative [2]. The next step will be to collect and publish general information on each registry and on how care for oesophageal and gastric cancer is organised within each country."

The pilot study found that in all countries the rate of deaths 30 days after surgery were lower after oesophagectomy (4.6%) than after gastrectomy (6.7%), but variation between countries was considerable. For instance, Sweden had the lowest death rate after oesophagectomy (1.9%) and England the highest (5.8%). After gastrectomy, the rate of deaths after 30 days was significantly higher in The Netherlands (6.9%) than in Sweden (3.5%) and Denmark (4.3%).

When the researchers looked at the volume of surgical operations carried out by hospitals in each country, they found that hospitals with the highest volumes (over 30 procedures a year) tended to have lower rates of deaths after 30 days, but, again, there was considerable variation between countries. In Denmark 65.6% of oesophagectomies were performed in hospitals carrying out over 30 procedures a year, while in Sweden a similar proportion (63.6%) were performed in hospitals carrying out less than 11 procedures a year. Yet Sweden had the lowest

death rates after oesophagectomy. [3]

Dr Dikken will say: "When we pooled all the data from all countries for analysis, we found a strong relation between increasing hospital volume and decreasing postoperative mortality. Performing oesophagectomies and gastrectomies in very low annual volumes is associated with poor outcomes. However, what we also found is that hospital volume is not the only explanation for differences in mortality. Sweden is investigating why they do so well in spite of not having centralised their surgery, although currently they are centralising."

What these results show, he will say, is that the number of procedures carried out every year is not the only important factor in whether or not a patient survives after surgery. EURECCA Upper GI should show what else makes a difference.

"We know that hospital volume is important, but acts as a proxy for good perioperative care, including good diagnostics (patient selection), pre-operative discussion of each patient in a multidisciplinary team, adequate perioperative care in the surgical department and in the intensive care unit with adequate numbers of experienced doctors and nurses, and an infrastructure able to adequately deal with complications. Therefore, the goal of the EURECCA project is to improve patients' outcomes throughout Europe by comparing and analysing care between countries and hospitals in order to discover what are the key factors that make a difference."

President of the European CanCer Organisation (ECCO), Professor Cornelis van de Velde, commented: "Initiated by the European Society of Surgical Oncology, the European Registration of Cancer Care (EURECCA) is now an international, multidisciplinary project that aims to analyse and improve the quality of care of cancer patients in Europe. It is auditing care in colorectal, upper GI, breast, liver, pancreas, gall

bladder and bile duct cancers. So far, guidelines for truly multidisciplinary management of colorectal cancer have been developed. EURECCA Upper GI will help us do the same for oesophageal and gastric cancers. The belief that every cancer patient in Europe deserves the best treatment is a core value of ECCO; EURECCA is the tool to achieve this."

Professor Roberto Labianca, Director of the Department of Oncology and Haematology, Ospedale Giovanni XXIII, (Bergamo, Italy), commented on behalf of the European Society for Medical Oncology (ESMO): "As this survey indicates that hospital volume is important, but that it does not fully explain cancer outcome in different countries, the results of the EURECCA international project (with more countries, more diseases and a sound prospective methodology) are eagerly awaited. In order to give the patients the best treatment and to obtain the optimal results in an uniform way it is essential to explore the differences among countries and to operate to correct them: this is the mission of ESMO."

More information: [1] The 2013 European Cancer Congress is the 17th congress of the European CanCer Organisation (ECCO), the 38th congress of the European Society for Medical Oncology (ESMO) and the 32nd congress of European Society for Therapeutic Radiology and Oncology (ESTRO).

[2] The Netherlands, the UK, Ireland, France, Germany, Poland, Italy, Spain, Norwary, Denmark and Sweden are the European countries involved in EURECCA

[3] "Differences in outcomes of oesophageal and gastric cancer surgery across Europe". By J.L. Dikken et al. British Journal of Surgery 2013; 100: 83-94.

[4] The pilot study was funded by the Signalling Committee on Cancer of the Dutch Cancer Society (KWF Kankerbestrijding).

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