

Geographic variation in cancer of the lower oesophagus

NCIN Data Briefing

Background

The incidence of cancer occurring in the lower third of the oesophagus is increasing in many developed countries. The predominant morphology of this cancer is adenocarcinoma. Known risk factors include gastro-oesophageal reflux disease leading to Barrett's oesophagus, smoking and obesity. *Helicobacter pylori* infection, which can cause stomach cancer, may protect against the development of Barrett's oesophagus and lower oesophageal adenocarcinoma.

KEY MESSAGE:

The incidence of lower oesophageal cancer is around four times higher in males than females. There appears to be some geographical variation in the incidence of this cancer across England that warrants further investigation.

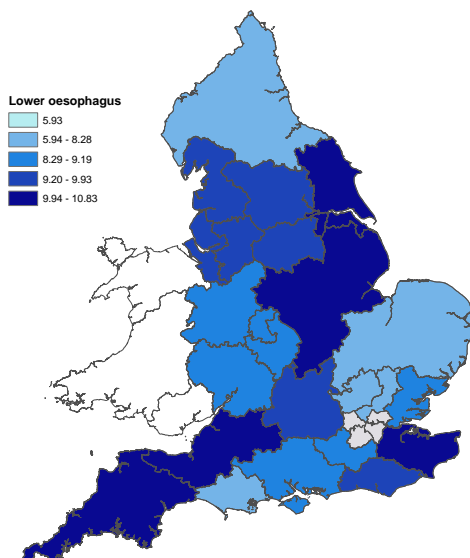


Figure 1: Map of age-standardised incidence rates of lower oesophageal cancer (per 100,000 European Standard population, ASR(E)) by cancer network, males, England, 1998-2006.

Results

The incidence of lower oesophageal cancer was higher in males (M:F ratio 4:1). Higher incidence rates of lower oesophageal cancer were evident in the South West and the Midlands (Figure 1). There was no distinct geographical pattern in incidence for females with this cancer (data not shown).

Funnel plots showed significantly higher incidence compared to the national average in Humber & Yorkshire Coast, Greater Midlands & Cheshire and East Midlands cancer networks in males, Merseyside & Cheshire cancer network in females and Avon, Somerset & Wiltshire and Peninsula cancer networks in both sexes (Figure 2). North London and South East London in males and North East London and West London in both sexes had a significantly lower incidence than the national average. In addition Mount Vernon, Anglia and North of England cancer networks in males and Central South Coast cancer network in females also had a lower incidence (Figure 3).

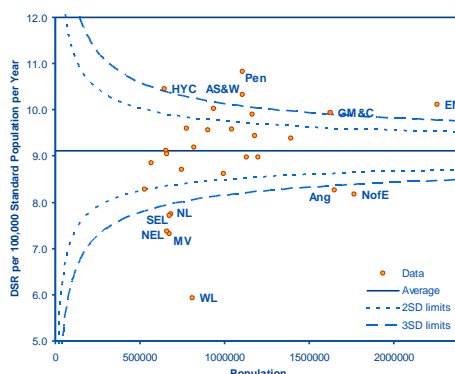


Figure 2: Funnel plot of ASR(E) of lower oesophageal cancer by cancer network, males, England, 1998-2006.

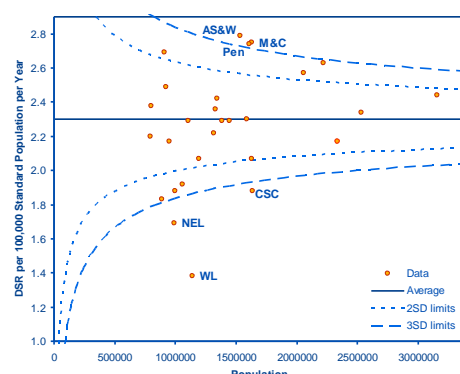


Figure 3: Funnel plot of ASR(E) of lower oesophageal cancer by cancer network, females, England, 1998-2006.

Ang, Anglia, AS&W, Avon, Somerset & Wiltshire, CSC, Central South Coast, EM, East Midlands, GM&C, Greater Manchester & Cheshire, HYC, Humber & Yorkshire Coast, M&C, Merseyside & Cheshire, MV, Mount Vernon, NEL, North East London, NL, North London, NoE, North of England, Pen, Peninsula, SEL, South East London, WL, West London

Source of funnel plot software: Compendium of Clinical and Health Indicators, December 2007. © Crown Copyright.

Methods

Data on patients diagnosed with lower oesophageal cancer in England between 1998 and 2006 were extracted from the National Cancer Repository Dataset. Lower oesophageal cancers were defined as patients with cancer in the abdominal part of the oesophagus (International Classification of Diseases v10 (ICD10), C15.2) and cancer in the lower third of the oesophagus (ICD10 C15.5). However, as the predominant morphology of lower oesophageal cancer is adenocarcinoma patients with an unspecified oesophageal cancer (ICD10 C15.8 and C15.9) who also had a morphology of adenocarcinoma (8140-8576) were coded to this group. There were 31,672 patients (23,288 males; 8,384 females) diagnosed with lower oesophageal cancer in England during this nine year period.

Age-standardised incidence rates (per 100,000 European standard population, ASR(E)), were calculated by sex, primary care trust and cancer network of residence. Incidence rates were displayed on maps and in funnel plots to assess variation in incidence between cancer networks. The funnel plots were produced using software available from the Eastern Region Public Health Observatory (ERPHO; <http://www.erpho.org.uk/viewResource.aspx?id=12476>)

Final note

The incidence of lower oesophageal cancer is around four times higher in males than females. There appears to be some geographical variation in the incidence of lower oesophageal cancer particularly in males.

London is one of the most ethnically diverse areas of England. The low incidence of lower oesophageal cancer in this area may be related to this cancer being more common in the White ethnic group. Further investigation is needed to explain this geographical variation.

FIND OUT MORE:

Thames Cancer Registry

Thames Cancer Registry is the lead Cancer Registry for upper gastrointestinal cancers

<http://www.tcr.org.uk>

Other useful resources within the NCIN partnership:

Cancer Research UK CancerStats – Key facts and detailed statistics for health professionals

<http://info.cancerresearchuk.org/cancerstats/>

The National Cancer Intelligence Network is a UK-wide initiative, working to drive improvements in standards of cancer care and clinical outcomes by improving and using the information collected about cancer patients for analysis, publication and research. Sitting within the National Cancer Research Institute (NCRI), the NCIN works closely with cancer services in England, Scotland, Wales and Northern Ireland. In England, the NCIN is part of the National Cancer Programme.