Anal Cancer: rising trends In England – 1990-2010

NCIN Data Briefing

KEY MESSAGES:

The incidence of anal cancer is increasing rapidly in England in both men and women but particularly in women in middle and older age groups.

Background

Although anal cancer is a relatively rare disease, numerous international reports have shown its incidence is increasing. These rising incidence rates are thought to be due to an increase in the number of anal squamous cell carcinomas (the main form of the disease) from which the major risk factor is the human papilloma virus (HPV). Little is known about trends in anal cancer incidence in England so this briefing aims to illustrate trends across the country by quantifying age-standardised and age specific rates in relation to sex and age between 1990 and 2010.

Results

Between 1990 and 2010, 13,940 individuals were diagnosed with anal cancer in England. Table 1 shows the percentage distribution of anal cancers across the different morphology sub-types of the disease and illustrates that squamous cell carcinomas were the most common form of the cancer. The morphological distribution of tumours between males and females was, however, significantly different with a greater proportion of women having squamous cell carcinomas and men having a high proportion of adenocarcinomas

Trends in age-standardised incidence rates both overall and for each morphological type of the disease for males are shown in Figure 1A. There was little change in the incidence of anal adenocarcinomas and basaloid or cloacogenic tumours over the study period but, in contrast, there was a 69% increase in squamous cell tumours with their incidence rate rising from 0.43 per 100,000 population in 1990-1994 to 0.73 in 2006-2010.

Amongst females there was, again, little change in the age-standardised incidence rate of adenocarcinomas, basaloid or cloacogenic tumours over time (Figure 1B). There was, however, a major increase in the incidence rate of squamous cell tumours. The rate per 100,000 population rose from 0.50 in 1990-1994 to 1.13 in 2006-2010 amounting to a 126% increase.

Figures 2A and 2B show the age-specific incidence rates by sex of squamous tumours over four consecutive time periods. They demonstrate an increase in incidence over time for both males and females but with rates increasing predominantly in those of middle and old age and being particularly marked in women.

Interpretation

In comparison to other large bowel tumours, anal cancer remains relatively rare in England, but its incidence is significantly increasing. Over the twenty year time period of this study the rates of the most common form of the disease (squamous cell carcinomas) have increased by 69% in men and 126% in women. Age-specific analyses by sex indicate that the incidence of the disease is increasing in both men and women, but particularly in women in middle and older age groups.

NCIN national cancer intelligence network

Figure 1A: Age-standardised incidence rates both overall and for each morphological type of the disease for males, England, 1990-2010

Figure 1B: Age-standardised incidence rates both overall and for each morphological type of the disease for females, England, 1990-2010

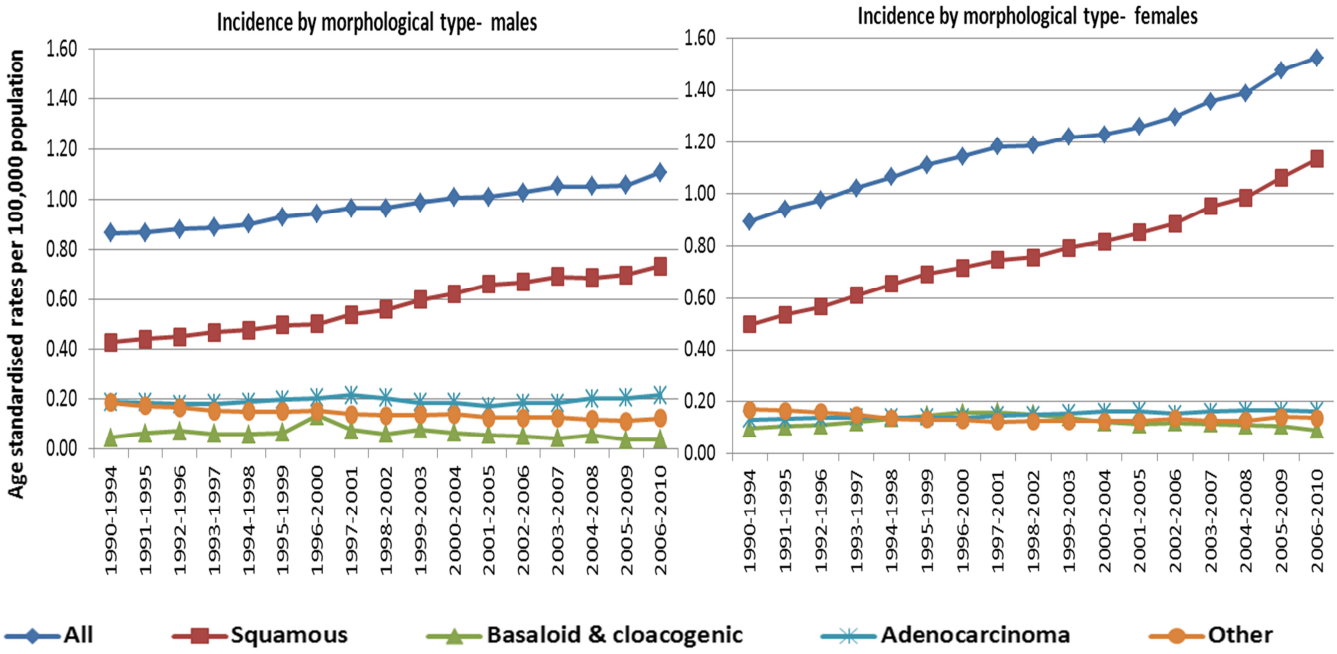
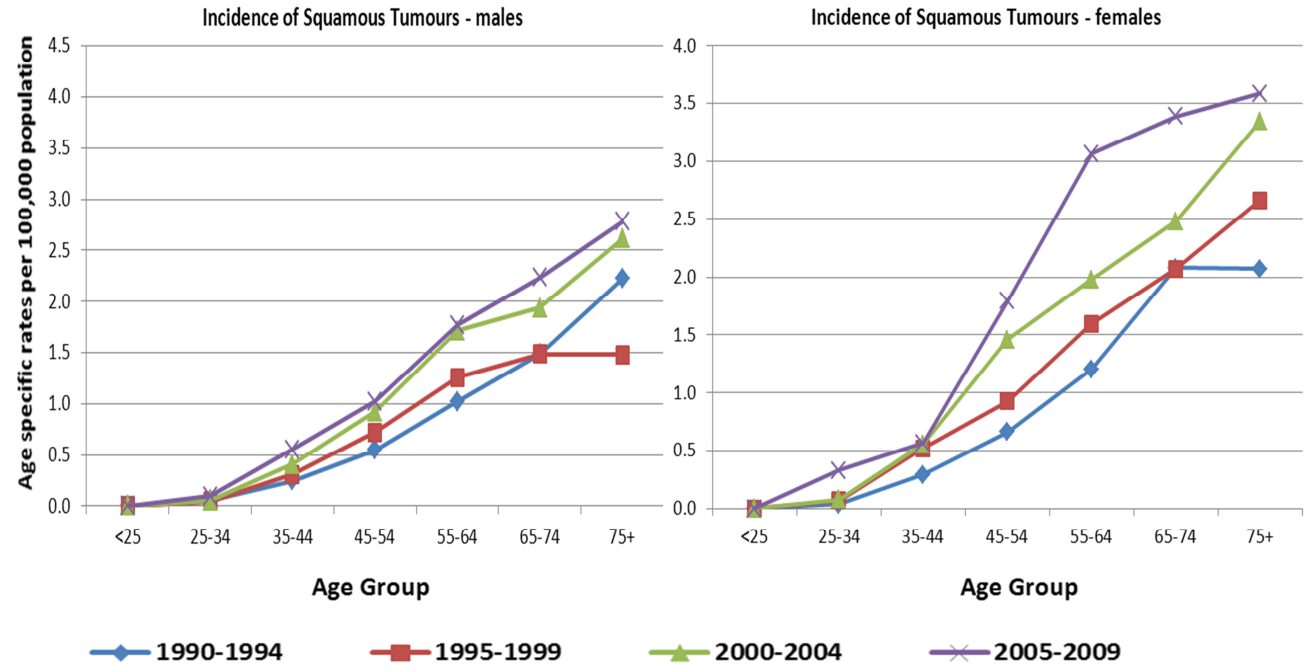


Figure 2A: Age-specific incidence rates of squamous tumours over four consecutive time periods for males, England, 1990-2009

Figure 2B: Age-specific incidence rates of squamous tumours over four consecutive time periods for females, England, 1990-2009



METHODS

Information was extracted from the cancer registry data component of the National Cancer Data Repository (NCDR) on every individual diagnosed with a primary anal cancer (International Classification of Diseases Version 10 code C21) in England between 1990 and 2010. The tumours of this population were then categorised into either squamous cell carcinomas, basaloid and cloacogenic carcinomas, adenocarcinomas or other cancers based on their ICD-O morphology codes.[8]

Mid-year population estimates were obtained from the Office of National Statistics[9] and used to calculate five-year moving average age-standardised incidence rates by direct standardisation to the European Standard population. Age-specific incidence rates for males and females of anal cancer squamous cell tumours for four specific time periods (1990-1994, 1995-1999, 2000-2004 and 2005-2009) were also investigated.

Acknowledgments

This work is taken from the publication: Rising incidence of anal cancer in England 1990-2010: a population-based study. Wilkinson JR, Morris EJA, Downing A, Finan PJ, Aravani A, Thomas JD, Sebag-Montefiore D. Colorectal Disease.

FIND OUT MORE:

Knowledge and Intelligence Team (Northern and Yorkshire)
Lead for colorectal and anal cancers

National Cancer Registration Service – Northern and Yorkshire

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