Trends in incidence of small cell lung cancer and all lung cancers

NCIN Data Briefing

Background
The incidence of small cell lung cancer (SCLC) is often quoted as around 20% of all lung cancers and its incidence is reportedly decreasing over time. It is the form of lung cancer most strongly related to tobacco smoking.

Aim
We analysed the trends in incidence of SCLC and compared these with the trends in all lung cancer overall among males and females in South East England between 1970 and 2007.

Results
Incidence rates of SCLC and all lung cancer were higher in males than females (Figure 1). Among males, the incidence rates of lung cancer declined from 1972. In contrast, the incidence rates of lung cancer among females steadily increased from 1972 and appeared to remain stable from 1987 onwards. There was a decrease of SCLC incidence over time. This decrease was more rapid in the most recent years.

Overall, SCLC proportions in males increased from 9% in 1972 to 10% in 2007 (Table 1). In contrast, the proportion of females with SCLC decreased from 13% in 1972 to 11% in 2007 (Table 2). However, a large proportion of lung cancers were histologically unspecified. When we limited our analysis to lung cancer with specified histology only, we found the proportion of SCLC to decline in both males (21% in 1972 to 15% in 2007) and females (32% in 1972 to 17% in 2007).

Figure 1. Age-standardised incidence rates of all lung cancer (A and B) and SCLC (C and D) by calendar period (A and C) and birth cohort (B and D).

KEY MESSAGE:
SCLC incidence trends are similar to those in all lung cancer. However, the decrease in the incidence of SCLC is slightly more pronounced. This decline probably reflects the reduction in smoking rates over the study period.
Methods

We identified 237,810 patients diagnosed with lung cancer (ICD-10 C33-C34) between 1970 and 2007. We computed age-standardised incidence rates using the European standard population by 5-year periods indicated by their midpoint. We used a Poisson regression age-cohort model to estimate the age-specific rates in the 1890 to 1960 birth cohorts. In addition, we analysed the proportion of lung cancer subtypes according to the ICD-O-3 morphology classification.

Conclusion

All lung cancer and SCLC incidence decreased over time in males and remained relatively stable in females. The slightly more rapid decrease in SCLC incidence rates compared to all lung cancer probably reflects the reduction in smoking rates over the study period.

Acknowledgement


FIND OUT MORE:

Thames Cancer Registry
Thames Cancer Registry is the lead Cancer Registry for lung cancer and mesothelioma

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.