

ENT cancer in the West Midlands Region of England

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Abstract

In the period 1978–1986, 2907 cases of ear, sinonasal and throat (ENT) cancers were registered in the computer data base of the West Midlands Cancer Registry, Birmingham. These cases have been examined by site and subsite in this article.

Squamous cell carcinomas continue to dominate ENT cancer with notable male predominance. Histology, male/female ratios and time trend analysis are reported for this group of cancers.

Key words: Cancer; Otolaryngology

Introduction

The age standardized incidence of cancer for England and Wales in the years 1978–1982 was reported as approximately 430 cases per 100,000 of the population. In the West Midlands region the commonest primary site for men was the lung followed by stomach, prostate, colon, bladder and rectum in descending order of frequency. In women, the commonest primary site was the breast followed by the lung, colon, cervix and ovary in descending order (Whelan *et al.*, 1990). The West Midlands region covers an area of 13,014 m² from 52° 08' /53° 00' N latitude and 1° 10' /3° 03' W longitude. The indigenous population is mixed Anglo-Irish with an immigrant population of Indian/African Asians and West Indians.

ENT cancers comprise approximately 3 per cent of total malignancies in the United Kingdom. There has been a national downward trend in the incidence for cancers of the lip and tongue and pharynx, whilst the rate of occurrence of cancer of the larynx has increased slightly. Other oral cavity cancers have increased in men but decreased in women (Muir *et al.*, 1987a). Death rates from ENT cancer have varied with geographical and racial factors, but overall are relatively stable (Blitzer, 1988).

The purpose of this paper is to examine the computerized records of the West Midlands Cancer Registry, to update previously reported figures, and specifically, to analyse the data for ENT cancer in some detail.

Material and methods

The data stored in the computerized records of the West Midlands Cancer Registry for the period 1978–1986 has been analysed. This is the last period for which completed, standardized data is available from this source. Registrations at this facility have been previously reported to 'capture' over 98 per cent of cases of malignant disease in the region (Waterhouse, 1987). Histological verification at this registry is also known to be high, 73–99 per cent verification of ENT cancers has been reported for different age groups (Muir *et al.*, 1987b). Death certificate only registrations are excluded. Registrations must be verified from hospital, general practitioner or coroner sources.

Ear, nose (including paranasal sinus) and throat (larynx and pharynx) cancer figures have been extracted and form the basis of this paper. Crude figures are presented together with standardized and cumulative data. Data is calculated as age specific number of cases by sex and site. Standardized data is produced at the registry to allow for the age/sex population profile of the region. This is calculated by comparison with selected populations in various parts of the world covered by cancer registrations.

ENT cancers have been analysed on the basis of age, sex, histology for different primary sites and time trends have been calculated and presented. Oral cancer has been excluded as this data is the subject of another report and skin cancers are excluded on the grounds of relevance and data unreliability.

Results

(1) Nearly 3000 ENT cancers occurred in the West Midlands between 1978 and 1986. Table I shows the 'site of origin' breakdown of the cancers by sex. Male/female ratios are included for each primary site (all histological types).

(2) The larynx, as expected, was the commonest primary site for ENT cancer. The vast majority of these were squamous carcinomas (80 per cent). The histological and subsite analysis is shown in Fig. 1. No significant difference with respect to histological type existed between the sexes in this study population.

TABLE I
ENT CANCER IN THE WEST MIDLANDS—ALL HISTOLOGICAL TYPES,
1978–1986. CANCER REGISTRY DATA.

Site	Male	Female	M/F ratio
Larynx	1306	225	5.8
Hypopharynx	272	179	1.5
Oropharynx	259	96	2.7
Nasopharynx	123	58	2.1
Other (Phnx)	39	17	2.3
Sinonasal	172	120	1.5
Ear	25	16	1.5
Total	2196	711	2.5

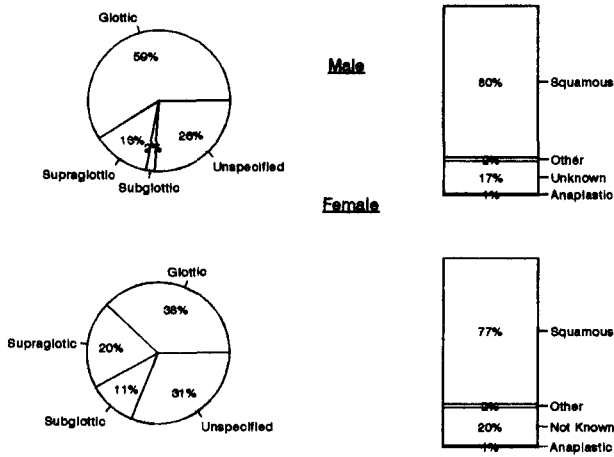


FIG. 1

Malignant tumours of the larynx by sex, histology and subsite. West Midlands, 1978-1986.

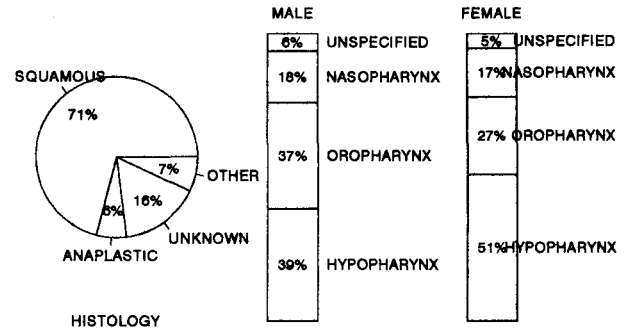


FIG. 2

Malignant tumours of the pharynx by histology and subsite. West Midlands, 1978-1986.

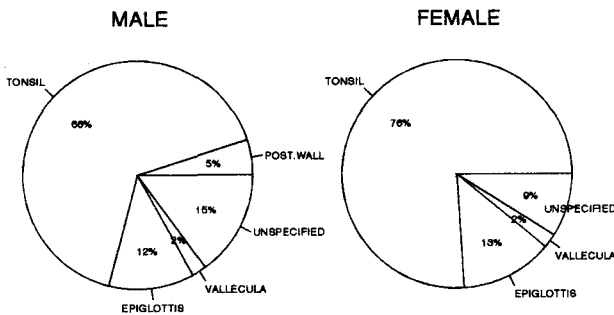


FIG. 3

Malignant tumours of the oropharynx and subsite and sex. West Midlands, 1978-1986.

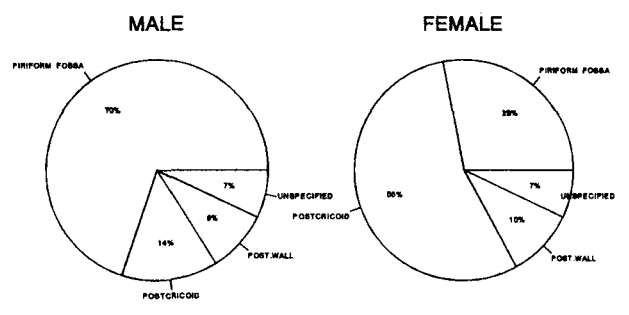


FIG. 4

Malignant tumours of the hypopharynx by subsite and sex. West Midlands, 1978-1986.

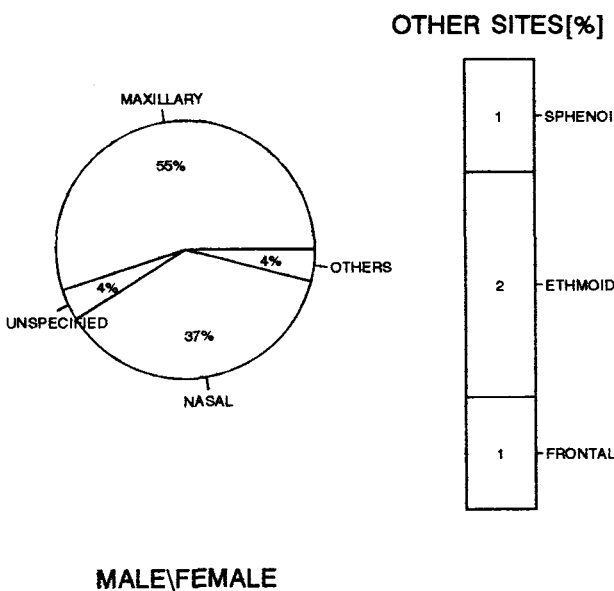


FIG. 5

Malignant sino-nasal tumours by subsite. West Midlands, 1978-1986.

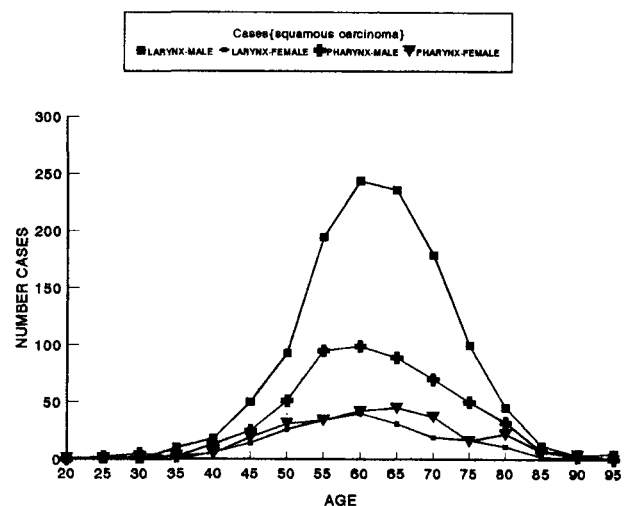


FIG. 6

Squamous cell carcinomas of the larynx and pharynx. Age distributions by sex. West Midlands, 1978-1986.

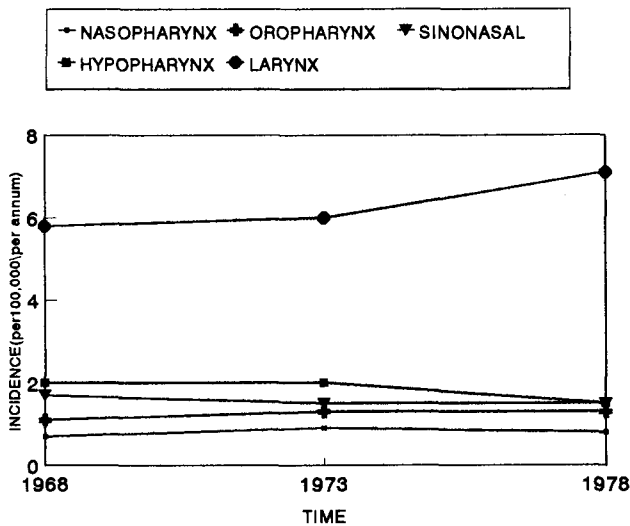


FIG. 7

Time trends in ENT cancer incidence (data derived from the series *Cancer Incidence in Five Continents*, I.A.R.C., Lyons).

(3) The pharynx is the next commonest primary site. Squamous carcinoma again predominates (71 per cent), but with a high incidence of undifferentiated tumours reported. The histological and subsite analysis is shown in Fig. 2. The histological proportions were again comparable between the sexes.

Further analysis of the data for cancer of the pharynx provides individual subsite information of interest. The site of origin of oropharyngeal tumours reveals striking similarity between the sexes (Fig. 3). In contrast, women continue to contract a proportionately high incidence of post-cricoid carcinomas within the hypopharynx (Fig. 4).

(4) Analysis of sinonasal carcinomas by subsite demonstrated no significant male/female differences. The subsite analysis for both sexes is therefore presented together (Fig. 5).

(5) The age specific incidence for squamous carcinoma of the larynx and pharynx peaks around 60 years in men and women. Interestingly, in women there is a further small peak around 80 years for carcinoma of the pharynx. This may be artifactual, as one indicator of reliability (proportion of cases histologically verified) is lower in the over 75 age group in this region. However the population sizes in the groups on either side of this peak are comparable (Fig. 6).

(6) Previously published data has shown a slight upward trend in laryngeal carcinomas in the West Midlands whereas the incidence of other types of ENT cancer has remained stable (Fig. 7; Muir *et al.*, 1987b). Within the West Midlands the incidence of ENT squamous carcinoma has remained reasonably stable during the study period (Fig. 8).

Discussion

The incidence of ENT cancers remains stable with a slight upward trend for the larynx. This represents a relatively small but important group of cancers. Data analysis reveals clear patterns in incidence variation between and within countries (Waterhouse *et al.*, 1982; Muir *et al.*, 1987; Whelan *et al.*, 1990). Modern registration methods allow reasonably confident interpretation of crude and standardized cancer rates.

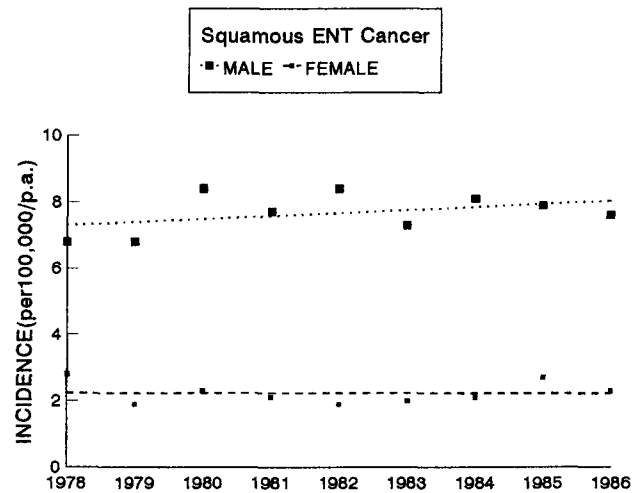


FIG. 8

Time trends in ENT squamous cell carcinoma in the West Midlands (1978–1986).

ENT cancer continues to be dominated by squamous carcinoma with a persistent male predominance. The hypopharynx is notable due to persistently high proportions of female post-cricoid carcinoma despite improved diets in much of the country together with increased awareness of the sequelae of iron deficiency anaemia and increased smoking amongst women. Outside the hypopharynx, the only significant subsite variation between the sexes occurs in the larynx, with rather more glottic tumours in men than in women.

The expected sharp increase in female smoking-related cancers has not yet appeared at ENT sites in women of the West Midlands. In contrast, a recent report of female lung cancer in Glasgow (which encompasses the period considered in this study) has shown a sharp increase since 1975 (Gillis *et al.*, 1992). Time trend analyses are stable except for a slight increase in total squamous carcinomas accounted for by an increase in male laryngeal cancer. It remains a source of disappointment that health care professionals' record-keeping continues to produce an unacceptable number of 'histology unknown' and 'subsite unknown' registrations in cancer registries.

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