Squamous cell carcinoma of the oral cavity, oropharynx and upper oesophagus

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Abstract

Carcinomas in the mouth and throat may present as an ulcer, a lump, a red or white patch, difficulty swallowing or unexplained pain. Early detection of small tumours is associated with prolonged survival, but for cases that present late the 5-year survival rate is only 50%. Surgery is often the treatment of choice, with postoperative radiotherapy given to prevent recurrence. Treatment for advanced carcinomas has a major impact on speech, swallowing and appearance. A small proportion of these carcinomas are associated with a visible precursor lesion and modification of risk factors remains key to preventing tumour development.

Keywords oesophagus; oral cavity; oropharynx; squamous cell carcinoma

Disease pattern and trends

Worldwide, cancer of the head and neck is the sixth most common malignancy, and in developing countries, the third. In the UK, carcinoma of the oesophagus is the ninth most common cancer, occurring more frequently than tumours in the mouth or pharynx that are ranked fifteenth. Overall, the incidence of mouth and throat carcinoma has fallen in men but has increased in women and there has been a 40% increase in the rate of development of this tumour type, particularly tongue cancer, in young people below 45 years of age.[1]

Of all carcinomas arising in the mouth and or pharynx, 90% of are squamous cell carcinomas (SCC). In the upper two-thirds of the oesophagus SCC is also the most common histology, whereas in the lower third adenocarcinoma predominates. Until the 1970s, SCC accounted for the vast majority of oesophageal cancer diagnosed in the UK and they still do in developing countries. However, since the 1970s the incidence of SCC has remained stable or decreased in most western countries while that of adenocarcinoma has increased, particularly in men (Table 1).

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Disease presentation

These carcinomas may present as an ulcer, a lump, as red or white patch (Figure 1a–d), or with difficulty in swallowing or eating, persistent pain or earache (for which no cause can be found), or a lump in the neck. Early carcinoma is often asymptomatic and approximately 25% of these tumours remain undetected until they are of advanced size, such that many patients delay their initial presentation for several months. Patients with lesions or unexplained symptoms may also self-medicate before seeking expert care. All cases presenting with any of the signs and symptoms summarized in Table 2 should be given a priority referral for an expert opinion.

After a thorough history to elicit any relevant risk factors, the specialist will perform a detailed clinical examination of the mouth, throat and neck area. This will involve visual inspection and palpation, as lesions may be hard to the touch owing to the loss of elasticity. Carcinomas of the tonsil and base of tongue can spread beneath the lymphoid layer and may be detected only on palpation.

Unless the diagnosis is clear, and the lesion is not a cancer, an incisional biopsy will be performed. This will be done urgently to distinguish between benign pathologies, such as frictional keratoses, traumatic ulcers, infections or precancerous change, which may all be mistaken for early carcinoma. Erosions or areas of ulceration with a rolled edge are almost pathognomic for tumour. Areas of field change that may appear as white or red patches may also surround these carcinomas. Tumours that are easily accessible will typically be biopsied under local anaesthetic but patients with less accessible tumours will require examination and, if appropriate, biopsy under general anaesthetic.

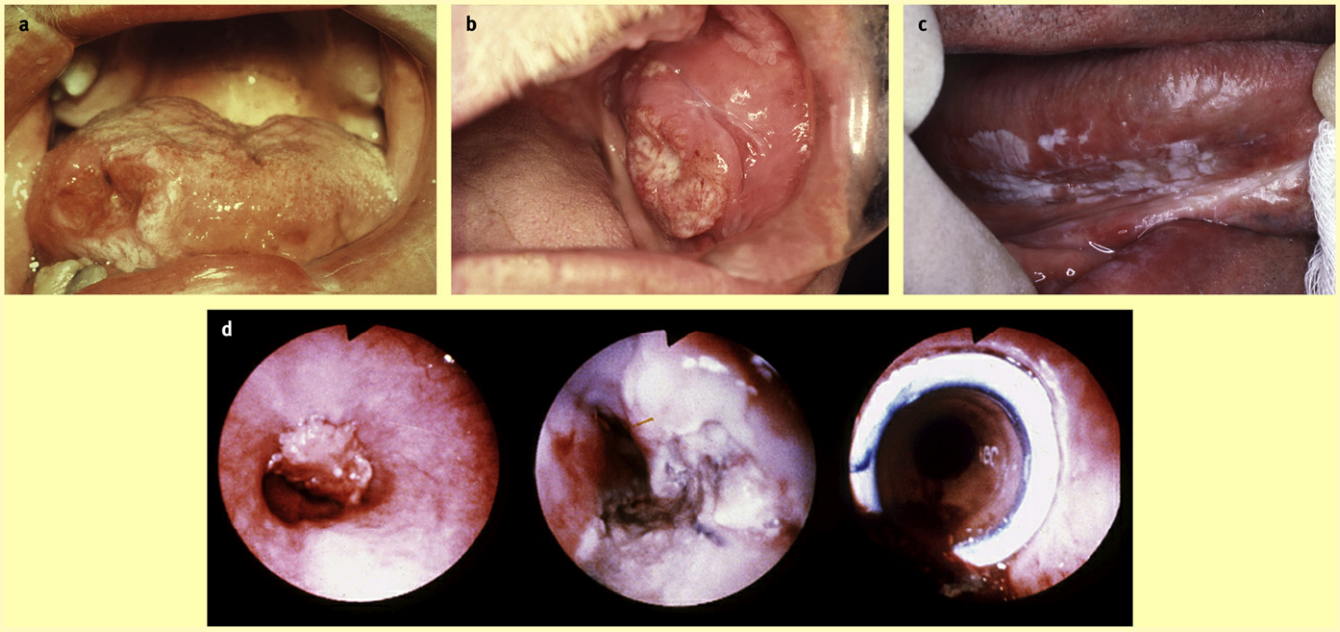
The neck will also be examined systematically, considering the different patterns of spread that depend on the location of the primary carcinoma, and fine needle aspiration cytology of enlarged nodes may be performed to exclude other diagnoses, for example TB or lymphoma. In some units, panendoscopy of the larynx, pharynx and oesophagus will be carried out to detect second tumours, but the yield is low and this will generally be reserved for patients whose symptoms suggest a second carcinoma.

When a patient presents with a lump in the neck without any apparent tumour in the mouth or oropharynx, a positron emission tomography (PET) scan with a tracer, fluorodeoxyglucose (FDG), is indicated, but the unknown primary may remain elusive despite tonsillectomy and examination of biopsies from

The incidence of oral, oropharyngeal and oesophageal squamous cell carcinoma by sex and site

Site	Males	Females	Persons	M:F ratio
Lip (ICD 10 C00)	220	113	333	1.9:1
Tongue (ICD10 C01-02)	1008	590	1598	1.7:1
Mouth (ICD10 C03-06)	954	620	1574	1.5:1
Oropharynx (ICD10 C09-10)	799	264	1063	3:1
Piriform sinus (ICD10 C12)	267	59	326	4.5:1
Hypopharynx (ICD10 C13)	109	62	171	1.8:1
Other & ill defined (ICD10 C14)	183	77	260	2.4:1
Oral/oropharyngeal (total)	3540	1785	5325	2:1
Oesophageal cancer	5034	2790	7824	1.8:1

Table 1



Squamous cell carcinoma presenting as **a** an ulcer, **b** a lump on the cheek, **c** as a mixed red and white lesion **d** with difficulty swallowing owing to carcinoma in the oesophagus, a stent has been placed for palliation.

Figure 1

many mucosal sites. The teeth will also be examined so that any dental disease can be dealt with before surgery or radiotherapy.

Once carcinoma is confirmed, the extent of tumour spread is established with extraoral panoramic tomography and CT scans of the head, neck and chest to establish the extent of disease.[2] Ultrasound examination is more sensitive than CT at detecting spread of carcinoma to the lymph nodes, but this technique is highly user-dependent. MRI might also be indicated especially if fine soft tissue visualization is required, or if the patient has many dental restorations that cause significant artefacts on the CT.

The disease is then staged using the TNM classification system and graded based upon the histology report and clinical features. When the biopsy reports reveal severe dysplasia, a further tissue sample will be examined as carcinoma may be close by. Most patients with SCC of the oesophagus (Figure 1d) present with difficulty in swallowing and will have barium swallow, followed by endoscopic examination as appropriate.

Symptoms of oral, oropharyngeal and upper oesophageal carcinoma

- Ulcer persisting >3 weeks after the cause is removed
- Persistent discomfort or pain or sore throat
- Persistent white or red patch, that is not thrush, but is painful or bleeding
- Difficulty chewing/swallowing
- Lump/thickening in mouth, throat or neck
- Earache with no apparent cause

Table 2

These carcinomas have devastating effects for patients, as important functions, including chewing, speech, swallowing, protection of the airway, taste and touch, are very important in everyday life. Any treatment can be very detrimental; in general, carcinomas in the anterior part of the mouth are more likely to have an adverse effect on speech whereas those arising in the posterior part may compromise swallowing.

Risk factors (Table 3)

Heavy smoking and alcohol consumption are the most common causative agents implicated for 75% of cases and act together in

Risk factors most commonly associated with squamous cell carcinoma of the oral cavity, oropharynx and oesophagus

- Smoking
- Alcohol
- Poor diet
- Poor oral hygiene
- Human papilloma virus
- Chewing a betel quid
- Age
- Male sex
- Rare conditions (e.g. tylosis — a genetic disorder characterized by hyperkeratosis of the palms and soles, white patches in the mouth and a 95% risk of developing oesophageal carcinoma by the age of 70 years. The gene has been mapped to chromosome 17q25.)

Table 3