Head and Neck Cancers

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Introduction

This paper deals with common head and neck cancers as they present to ENT surgeons and contains information on laryngeal, pharyngeal and oral cancers. Neck masses are dealt with separately but are commonly associated with malignancy of the head and neck.

Oral Cancer

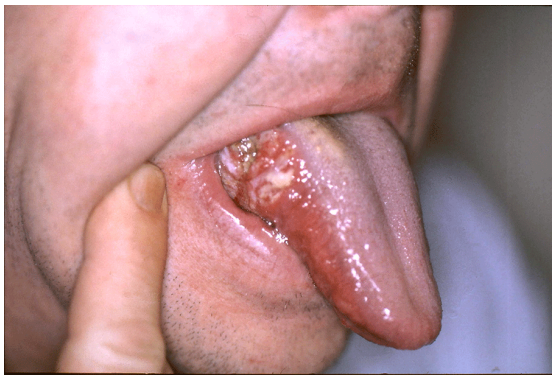
By far the commonest histological type is squamous carcinoma but adenocarcinoma from salivary tissue, lymphomas in lymphoid tissue and mucosal melanomas are all seen.

Smoking and excessive alcohol consumption are the commonest causes but dental disease, poor nutrition and some chronic infections can predispose to it and work synergistically with smoke and alcohol to stimulate cancer genesis.

The human papilloma virus (subtype 16) is also relevant in cancer genesis. This is the same virus implicated in cervical cancer and is a common sexually transmitted pathogen.

Signs and symptoms

In the early stage small lesions may go unnoticed. As they enlarge a non-healing ulcer may be noticed. White or red patches may be visible and there may be bleeding from the lesion. Later in the disease induration, pain, bleeding, infection and halitosis, dysphagia, referred otalgia, trismus, and neck nodes appear.



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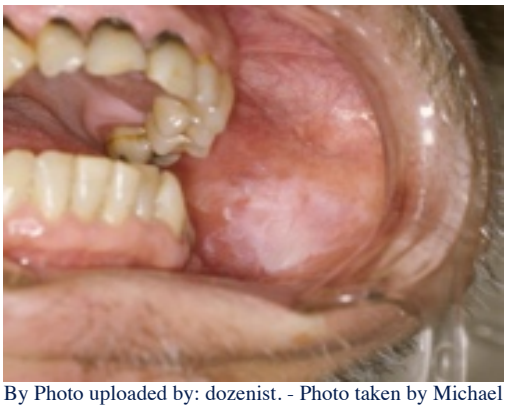

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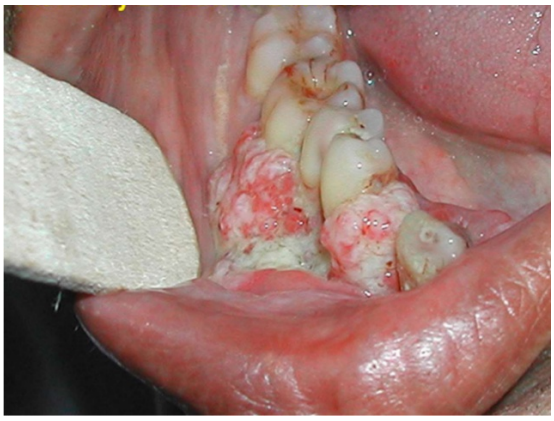
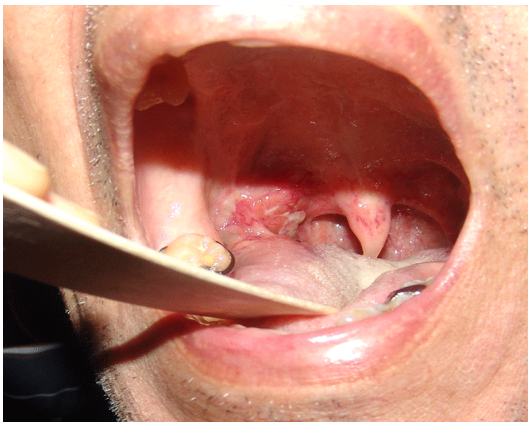
Tongue carcinoma. These are common on the lateral border of the tongue.

Leukoplakia. This is a precursor of carcinoma.



Carcinoma affecting the lower alveolus and buccal mucosa



Tumour in the right tonsil

Management

Diagnosis is made by incisional biopsy. Staging of the disease requires radiological assessment including a chest X-ray and CT/MRI of the head and neck. An orthopantomogram is ordered if the disease affects or is near to the alveolar arches.

Surgical excision with adjunctive radiotherapy +/- chemotherapy is recommended. Depending on the site of the oral carcinoma mandibulectomy, maxillectomy, glossectomy, and radical neck dissection are possible options.

Dental extraction is performed prior to radiotherapy to decrease the risk of osteoradionecrosis of the mandible.

Laryngeal Cancer

Laryngeal cancers are of diverse histology but by far the commonest is squamous cell carcinoma, making 85% of all laryngeal malignancy. This section will concentrate on this disease due to its prevalence.

Squamous carcinoma is four times more common in men than women and peak incidence is between 55 and 65 years.

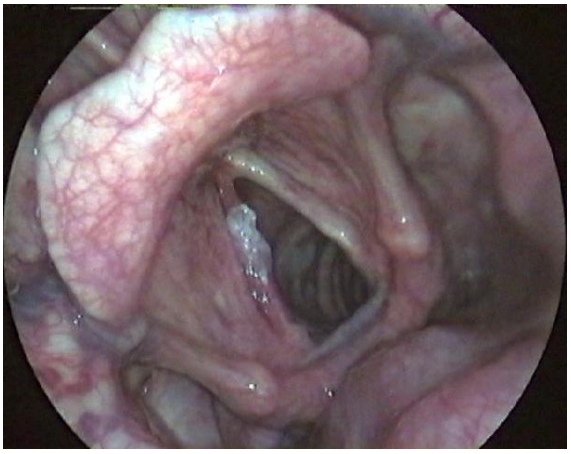
Risk factors for the disease are:

1. Smoking
2. Dark spirits
3. Asbestos exposure
4. Formaldehyde exposure
5. Radiation (for thyroid disease)

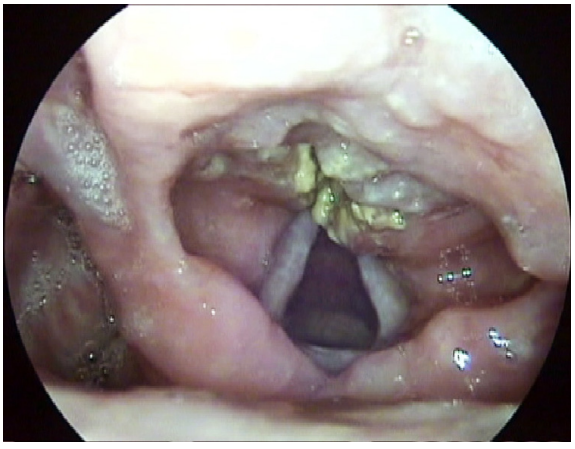
All three zones of the larynx can be affected and the approximate distribution between them is:

1. Supraglottic 40%
2. Glottic 50%
3. Subglottic 10%

Of these, glottic tumours present earliest because they cause symptoms quickly. Hoarseness that is persistent should be evaluated to exclude carcinoma. Because of their early presentation and the relative lack of lymphatic drainage in the glottis, metastasis is relatively uncommon. The image below shows a carcinoma on the free edge of the left vocal cord.



Supraglottic tumours have a large area to grow in before they give symptoms and the area is well supplied with lymphatics. Therefore, more advanced disease with metastasis can develop here before presentation to a doctor. The image below shows a Supraglottic carcinoma. It lies above the cords on the laryngeal surface of the epiglottis.



The subglottis also has good lymphatic drainage but the area is very small so it produces symptoms fairly early.

Hoarseness and airway compromise are symptoms common to all laryngeal tumours eventually but other symptoms and signs occur as the tumour extends:

1. Pain on swallowing

2. Dysphagia
3. Referred otalgia
4. Haemoptysis
5. Halitosis
6. Neck mass

Remember that the risk factors for laryngeal cancer are the same as for lung cancer and it is not infrequent that the patient will have a laryngeal tumour and a lung primary.

Investigation

A good history is a key process but examination of the larynx will also be required to differentiate hoarseness due to cancer from the benign causes.

Evaluation of the quality of the voice, the patient's cough, and their ability to conserve air will help in a diagnosis but visualisation is critical. This can be effected by a laryngeal mirror, by a flexible examination with an endoscope through the nose, and by direct examination of the larynx under anaesthesia.

Management

The factors to consider in deciding on a treatment plan are as follows:

1. Performance status of the patient
2. Patient preference is important
3. Patient's distance from the treatment facility
4. Follow-up reliability
5. Physician's preference
6. Availability of good quality imaging, pathology and surgeon

All of these must be weighed up before a decision can be arrived at. The options for treatment depend on the site of the tumour, the extent of the tumour and whether there are metastases or lung primaries or not. A combination of surgery and radiotherapy are usually opted for.

Pharyngeal Cancer

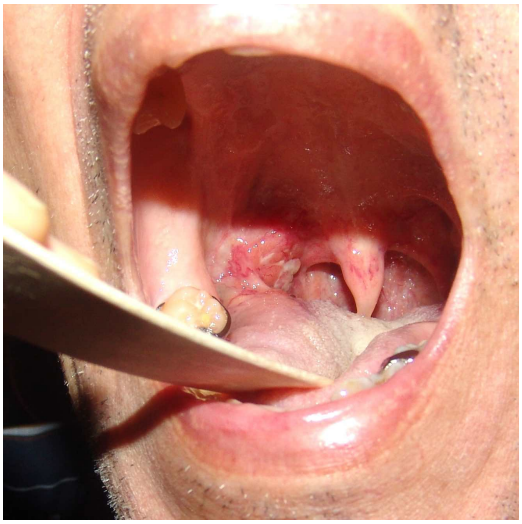
The pharynx has three sub-sites: the nasopharynx, the oropharynx, and the laryngopharynx. Tumours may occur in any of these and the symptoms that they produce will vary accordingly.

Oropharyngeal

The base of the tongue and the tonsils are the commonest place for oropharyngeal cancer. Histologically squamous cell carcinoma is by far the most common with HPV being implicated in many. Lymphomas are the second most common tumour of the tonsil.

Ulceration or asymmetry of the tonsil should raise the suspicion of malignancy especially if there are other symptoms and signs. Pain, referred otalgia, bleeding, and neck nodes may all be present and trismus may arise through extension into the underlying pterygoid muscles.

The image shows a right tonsil carcinoma. The patient had metastases at presentation.



Tongue base tumours may present late to the surgeon because they are easily confused with simple chronic infection. A neck node may be the first sign of disease.

Diagnosis is made by history, examination and palpation of the oropharyngeal structures. It is confirmed by biopsy. Other investigations to assess stage of the disease include chest X-ray, CT and MRI and Ultrasound of the neck.

Treatment is by surgery and radiotherapy.

Nasopharyngeal

Nasopharyngeal carcinoma is uncommon except in Cantonese patients, especially in Hong Kong. There are several risk factors that appear to act synergistically:

1. Positive family history
2. Epstein Barr virus infection
3. Diet rich in salty and Vit C deficiency

Lymphoma does also occur (Non-Hodgkin).

The symptoms are related to obstruction of the nasal airway and to extension of the tumour into adjacent structures. Thus the possibilities are:

1. Blocked nose
2. Epistaxis
3. Neck node
4. Extension into the Cavernous sinus with diplopia due to cranial nerve palsy
5. Facial pain / numbness
6. Otitis media with effusion – unilateral

Surgery has a limited role and radiotherapy with chemotherapy are the mainstays of management.

Hypopharyngeal

Squamous carcinoma of the hypopharynx is commonest in the piriform sinus and over half of patients will have lymph node metastasis at presentation. The other two sub-sites of the hypopharynx, the post cricoid and posterior pharyngeal wall, also often present with a lymph node.

Prognosis is poor if there are laryngeal palsy and nodal metastasis present. Tumour size and distant metastasis also contribute to this.

About a quarter of patients are untreatable at presentation. Surgery with radiotherapy and chemotherapy are used together with neck dissection for nodes.