

Review Article

Common oral mucosal diseases

常見的口腔粘膜病

FFY Chan

Oral mucosal disease can vary from benign to malignant conditions. Of these the most common is aphthous ulceration which can severely affect the quality of life if recurrent. Conditions such as herpes zoster, common warts which we normally associate with the skin can also occur on the oral mucosa. In other cases, drugs may be the cause as the case of gingival hyperplasia due to phenytoin. However, persistent ulceration should be investigated in order to exclude oral malignancy. This paper gives a review of some of the oral conditions than may be encountered.

口腔粘膜疾病包含良性到惡性等不同狀況。其中最常見的是口腔潰瘍，如果反復發作也可以嚴重影響生活質量。其他常見的皮膚問題如帶狀皰疹或尋常疣也可以發生在口腔粘膜上。此外，藥物也是不可忽略的成因之一，例如由苯妥英引起的牙齦增生。另持續性潰瘍亦需小心跟進以排除口腔惡性腫瘤。本文回顧了一些較常遇到的口腔疾病。

Keywords: Aphthous ulcer, Oral cancer, Oral mucosal disease

關鍵詞：口腔潰瘍、口腔癌、口腔黏膜病

Introduction

This is a brief presentation of some common oral mucosal disease encountered in dentistry and oral & maxillofacial surgery by the author.

Normally the moist environment of the oral cavity is maintained by saliva which bathes the oral mucosa. Desiccation due to a reduction of salivary flow or prolonged mouth breathing is detrimental

to the oral mucosa, as well as the dentition. There are two types of squamous cell epithelia in the oral mucosa:

Keratinised epithelium

This is found in the gingiva, the hard palate, and dorsal tongue. This type of epithelium is subject to friction during mastication and protects the underlying periodontal tissue around the teeth.

Non-keratinised epithelium

This is present in the alveolar mucosa, buccal and labial mucosae, ventral surface of tongue and floor of mouth, and the soft palate. One small exception is the presence of parakeratosis in a vague white line on the buccal mucosa opposite the occlusal

Private Dental Practitioner, Hong Kong

FFY Chan, FHKAM(DS), FCDSHK(OMS)

Correspondence to: Dr. FFY Chan

line between upper and lower posterior teeth. This is the **linea alba**, a normal feature. In the submucosa of this non-keratinised type are numerous small salivary glands. Keratinisation in a non-keratinised area signifies abnormality and requires investigation. Due to the excellent blood supply of the oral cavity tissues, wounds here heal very well. Any wound that persists for two or more weeks should be viewed with suspicion. The condition of the dentition, and oral hygiene are closely linked to oral mucosal diseases in their causation or progression.

Common oral mucosal diseases may cause discomfort or pain, or affect the appearance of the patient, leading to an obvious abnormal appearance, unusual enlargements or swellings, or pigmentation. Some are detected incidentally e.g. patient's health care provider. These conditions are presented here briefly.

Oral ulcerations

(with the exception of oral lichen planus, and pemphigus)

1. Recurrent aphthous ulcers (RAU)

This is by far the most common type of oral ulcerative condition, affecting about 20% of the general population at any one time. Although it is not debilitating nor life-threatening, the pain and, for some unfortunate patients, the frequent recurrence can cause considerable distress. The aetiology is still unknown although many theories has been suggested, including viral infection, immunological abnormality, nutritional deficiency, endocrine conditions, allergic factors, and psychological factors. However, no conclusive evidence has been positively identified. While treatment can relieve the pain and decreasing the duration the ulceration, there are no known means for prevention of recurrence. The commonest treatment modality is the topical application of corticosteroid.

There are three main varieties of the RAU:

a. Minor aphthous ulcer

This is the most common form. It can occur at any site of the oral mucosa and consists of a few lesions of a few millimetres in size. They heal spontaneously in ten days to two weeks with or without treatment. There is no scarring after healing. The commonest remedy is by topical application of corticosteroid.

b. Major aphthous ulcer

This is less common, about 10% of all aphthous ulceration. The lesion size is large, over 1 cm in dimension and is more painful. It persists longer, up to six weeks, with considerable scarring after healing.

c. Herpetiform aphthous ulcer

This is less common, also about 10% of all aphthae and occurs as crops of small but numerous (up to 100) ulcers. These small lesions then coalesce into a large, shallow ulcer. The course of the ulceration is similar to minor aphthae.

2. Primary herpetic gingivostomatitis

This is caused by the herpes simplex virus (HSV-1) and usually affect infants and young children. The usual presentation is a young patient with mild systemic upset e.g. low fever, mildly unwell, unwilling to feed due to pain in from the ulceration in the gums or any other part of the oral cavity, which occurred after rupturing of the initially erupted vesicles. Occasionally adults can be affected by this condition in which symptoms tend to be more severe than those seen in children.¹ Treatment is mainly supportive. Sometimes this type of acute ginivostomatitis are confused with the better known Vincent's Angina (aka Trench mouth, or Acute Necrotising Ulcerative Gingivitis) which is a completely different entity, and from the author's experience, rarely seen in tropical countries such as Hong Kong.

3. Herpes zoster (Shingles)

Herpes zoster can occur in the oral mucosa, when caused by varicella virus through the trigeminal nerve supplying the facial skin and the oral mucosa. The condition is extremely painful and is easy to diagnosed by its clearly demarcated area of eruption supplied by the respective branch of the trigeminal nerve. Treatment is by using antiviral agents.

Swellings/Enlargements

1. Drug associated/induced

Nearly 50% of patients on long term phenytoin (Dilantin) treatment develop variable degrees of gingival hyperplasia (Figure 1). The gingival enlargement typically occurs in the interdental papillae. Poor oral hygiene usually aggravates the condition. Antihypertensive drugs e.g. nifedipine and immunosuppressants e.g. cyclosporine can also cause similar conditions. If the enlargement is severe, surgical removal followed by improved oral hygiene can be an effective.

2. Pyogenic granuloma

These are usually caused by irritation e.g. rough tooth surface, dental calculus or ill-fitting dental restorations. This can occur in the gingiva close to the source of irritation, or on the oral mucosa of the cheek, lip, or tongue adjacent to the offending object (Figure 2). These swellings may not regress even after the removal of the irritation and thus requiring surgical excision.

3. Denture granuloma (*epulis fissuratum*)

This is a marked hyperplasia of soft tissue in the denture-bearing area of the oral mucosa, due to prolonged irritation by wearing the ill-fitting denture. Treatment is by discarding the ill-fitting prosthesis, surgical excision of the hyperplasia and provision of a new, better fitting appliance.

4. Fibroepithelial polyp

This is a common condition, seen in the buccal, labial or tongue surface. Formed usually due to mild, constant irritation e.g. accidental biting, sharp tooth edge.

5. Benign epithelial tumour

A common example is the squamous papilloma. Can occur anywhere in the oral mucosa.

6. Common wart (*verruca vulgaris*)

Common warts occasionally occur in the oral mucosa. Sometimes it can have similar clinical appearance with the squamous papilloma or even squamous cell carcinoma.



Figure 1. Dilantin gingival hyperplasia.



Figure 2. Pyogenic granuloma close to jagged teeth.

Congenital and lesions of unknown aetiology

1. Gingival cysts of infancy (Epstein pearls)

A common finding in some newborns presenting as white, firm small nodules on the maxillary, as yet edentulous alveolus. No treatment is necessary, as they will spontaneously degenerate in a few months' time.

2. Geographic tongue (Migratory glossitis)

This can be seen in children and adults. The condition consists of multiple areas of desquamation of the filiform papillae of the tongue dorsum in an irregular pattern (like a map) (Figure 3). It resembles oral psoriasis. This is benign condition and no treatment is necessary or available. Occasionally these will spontaneously resolve, especially in children.

Pigmented lesions

1. Black lesions: These range from benign conditions e.g. melanotic macules, melanotic naevus to malignant melanoma (Figure 4).
2. Bluish red lesions: e.g. Haemangioma. Diagnosis is usually easy as these lesions blanch when compressed. Sometimes aspiration of blood from the lesion will confirm the diagnosis.
3. White lesions: Leukoplakia is a frequently used term to describe a white patch on the mucosa, and which has no known cause. About 10% of these lesions are pre-malignant, the rest being innocent hyperkeratosis. Histological examination is the only way to determine if there is dysplasia which signifies possible pre-malignant change.
4. *Speckled leukoplakia (erythroplakia)- This is a more dangerous form of leukoplakia which shows red and white patches in the same lesion. There is severe dysplasia or even micro-invasive

carcinoma. Some authorities use the term 'erythroplasia' to more appropriately describe this condition.

Oral cancer

This is the most feared condition of the oral mucosa. In Hong Kong the oral cancer incidence is low compared to other malignancies. Statistics show that there are 5.5 cases per 100,000 population as compared to about 16-18 cases per 100,000 in India, a country with the highest rate of oral cancer.²



Figure 3. Geographic tongue.



Figure 4. Malignant melanoma.

The predominant type of primary oral cancer is squamous cell carcinoma. Although a condition mostly found in older individuals, it has occurred in children, fortunately very rarely. The common sites of intra-oral cancer are the alveolus, a prevalent site being the retro-molar fossa of the mandible (i.e. area behind the last lower molar) which has a nick name of "coffin's corner"; lateral border and ventral surface of the tongue; and floor of the mouth. A prolonged non-healing ulcer, or a persistent dental extraction socket that fails to heal is a frequent presenting feature. Other presenting features may be a growth, especially with a coarse or granular surface. As was mentioned earlier, poor dental condition, e.g. severely worn teeth, poor oral hygiene are often found close to the oral malignancy. The classic acronym of the "S"s for aetiology of oral cancer is as follows: Spirit (alcohol use), Smoking, Syphilis, Septic teeth (grossly carious teeth) may be worth remembering.

Conclusion

Oral mucosal disease can vary from benign to malignant conditions. As clinicians, we should be aware of the potential of these lesions for malignant transformation. Therefore, any lesion of the oral mucosa that fails to resolve should be investigated.

References

1. Scully C, Cawson RA. Chapter 17: Some skin diseases & infections with oral manifestations, Herpes simplex. *Medical Problems in Dentistry*. Bristol: Wright, 1987.
2. K Ushida, CP McGrath, ECM Lo, RA Zwahlen. Oral cavity cancer trends over the past 25 years in Hong Kong: a multidirectional statistical analysis. *BMC Oral Health* 2015;15:83.