Chapter 2

Gastrointestinal Tract Problems

Mouth ulcers

Mouth ulcers are common, with recurrent aphthous ulcers affecting as many as one in five of the population. They are classified as aphthous (minor or major) or herpetiform ulcers. Most cases (more than three-quarters) are minor aphthous ulcers, which are self-limiting; they are not associated with systemic diseases and their cause is unknown. Other types of ulcer may be due to a variety of causes including infection, trauma and drug allergy. However, occasionally mouth ulcers appear as a symptom of serious disease such as carcinoma. The pharmacist should be aware of the signs and characteristics that indicate more serious conditions.

What you need to know

- Age
  - Child, adult
- Nature of the ulcers
  - Size, appearance, location, number
- Duration
- Previous history
- Other symptoms
- Medication

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Significance of questions and answers

Age

Patients with aphthous ulcers may describe a history of recurrent ulceration, which began in childhood and has continued ever since. Minor aphthous ulcers are more common in women and occur most often between the ages of 10 and 40 years.

Nature of the ulcers

Minor aphthous ulcers usually occur in crops of one to five. The lesions may be up to 5 mm in diameter and appear as a white or yellowish centre with an inflamed red outer edge. They are painful, clearly defined, round or ovoid, shallow ulcers confined to the mouth. Common sites are the tongue margin and inside the lips and cheeks. The ulcers tend to last from 5 to 14 days.

Major aphthous ulcers are an uncommon severe variant of the minor ones. The ulcers that may be as large as 30 mm in diameter can occur in crops of up to 10. Sites involved are the lips, cheeks, tongue, pharynx and palate. They are more common in sufferers of ulcerative colitis.

Herpetiform ulcers are a variant of aphthous ulcers that present as multiple pinhead-sized ulcers that may fuse to form much larger, irregular-shaped ulcers and are very painful. In addition to the sites involved with aphthous ulcers, they may affect the floor of the mouth and the gums. These ulcers are called 'herpetiform' because the clinical appearance suggests a viral cause, but they are not caused by viral infection. They usually last 10–14 days. Table 2.1 summarises the features of the three main types of aphthous ulcers.

Aphthous ulcers should not be confused with cold sores, caused by herpes zoster virus, which are small blisters that usually develop on the skin and lips

Table 2.1 The three main types of aphthous ulcers

Minor	Major	Herpetiform
80% of patients	10–12% of patients	8–10% of patients
2–10 mm in diameter (usually 5–6 mm)	Usually over 10 mm in diameter; may be smaller	Pinhead sized
Round or oval	Round or oval	Round or oval; coalesce to form irregular shape as they enlarge
Uncomfortable but eating not affected	Prolonged and painful ulceration; may present patient with great problems – eating may become difficult	May be very painful

around the mouth (see Chapter 3 Skin Conditions: Cold sores). Cold sores often begin with a tingling, itching or burning sensation.

Systemic conditions such as Behçet's syndrome and erythema multiforme may produce mouth ulcers, but other symptoms would generally be present (see below).

Duration

Minor aphthous ulcers usually heal in less than 1 week; major aphthous ulcers take longer (10–30 days). Where herpetiform ulcers occur, fresh crops of ulcers tend to appear before the original crop has healed, which may lead patients to think that the ulceration is continuous.

Oral cancer

Any mouth ulcer that has persisted for longer than 3 weeks requires immediate referral to the dentist or doctor because an ulcer of such long duration may indicate serious pathology, such as carcinoma. Most oral cancers are squamous cell carcinomas, of which one in three affects the lip and one in four affects the tongue, often the undersurface. The development of a cancer may be preceded by a premalignant lesion, including erythroplasia (red) and leucoplakia (white) or a speckled leucoplakia. Squamous cell carcinoma may present as a single ulcer with a raised and indurated (firm or hardened) border. They may be painless initially. Common locations include the lateral border of the tongue, lips, floor of the mouth and gingiva. The key point to raise suspicion would be a lesion that has lasted for several weeks or longer. Oral cancer is much more common in smokers than non-smokers.

Previous history

There is often a family history of mouth ulcers (estimated to be present in one in three cases). Minor aphthous ulcers often recur, with the same characteristic features of size, numbers, appearance and duration before healing. The appearance of these ulcers may appear to follow trauma to the inside of the mouth or tongue, such as biting the inside of the cheek while chewing food. Episodes of ulceration generally recur after 1–4 months. However, trauma is not always a feature of the history, and the cause of minor aphthous ulcers remains unclear despite extensive investigation.

Ill-fitting dentures may produce ulceration, and, if this is a suspected cause, the patient should be referred back to the dentist so that the dentures can be refitted. Another problem that can occur in relation to dentures is candidal infection (thrush). Often this also involves redness, fissuring and soreness at the angle of the mouth (cheilitis). If this is suspected, *miconazole gel* can be used (or oral *fluconazole*) to treat the infection (see Chapter 8 Childhood Conditions: Oral thrush). Advise hygiene measures that involve leaving the dentures

out for at least 6 h in each 24 h period to promote healing of the gums. Sometimes longer is needed. The dentures should be cleaned and then soaked in a disinfectant solution, for example, *chlorhexidine*, overnight. The dentures can be soaked in any solution marketed to sterilise baby's bottles (providing the dentures contain no metal).

In women, minor aphthous ulcers often precede the start of the menstrual period. The occurrence of ulcers may cease after pregnancy, suggesting hormonal involvement. Stress and emotional factors at work or home may precipitate a recurrence or a delay in healing but do not seem to be causative.

Deficiency of iron, folate, zinc or vitamin B_{12} may be a contributory factor in aphthous ulcers and may also lead to glossitis (a condition where the tongue becomes sore, red and smooth) and angular stomatitis (where the corners of the mouth become sore, cracked and red).

Food allergy is occasionally the causative factor, and it is worth enquiring whether the appearance of ulcers is associated with particular foods.

Other symptoms

The severe pain associated with major aphthous or herpetiform ulcers may mean that the patient finds it difficult to eat and, as a consequence, weight loss may occur. Weight loss would therefore be an indication for referral.

In most cases of recurrent aphthous mouth ulcers, the disease eventually burns itself out over a period of several years. Occasionally, as in Behçet's syndrome, there is progression with involvement of sites other than the mouth. Most commonly, the vulva, vagina and eyes are affected, with genital ulceration and iritis.

Behçet's syndrome can be confused with erythema multiforme, although in the latter there is usually a distinctive rash present on the skin. Erythema multiforme is sometimes precipitated by an infection or drugs (sulphonamides being the most common).

Mouth ulcers may be associated with inflammatory bowel disorders or with coeliac disease. Therefore, if persistent or recurrent diarrhoea is present, referral is essential. Patients reporting any of these symptoms should be referred to their GP surgery.

Rarely, ulcers may be associated with disorders of the blood including anaemia, abnormally low white cell count or leukaemia. It would be expected that in these situations there would be other signs of illness present and the sufferer would present directly to the doctor.

Medication

The pharmacist should establish the identity of any current medication, since mouth ulcers may be produced as a side effect of drug therapy. Drugs that have been reported to cause the problem include *aspirin* and other non-steroidal

anti-inflammatory drugs (NSAIDs), cytotoxic drugs, *nicorandil*, *beta-blockers* and *sulphasalazine* (sulfasalazine). Radiotherapy may also induce mouth ulcers. It is worth asking about herbal medicines because *feverfew* (used for migraine) has been known to cause mouth ulcers.

It would also be useful to ask the patient about any treatments tried either previously or on this occasion, and the degree of relief obtained. The pharmacist can then recommend an alternative product where appropriate.

When to refer

Duration of longer than 3 weeks
Associated weight loss
Ulcer suggestive of cancer
Involvement of other mucous membranes or eyes
Rash
Suspected adverse drug reaction
Diarrhoea

Treatment timescale

If there is no improvement after 1 week, the patient should see the doctor.

Management

Symptomatic treatment for aphthous ulcers can relieve pain and may reduce healing time. Active ingredients include antiseptics, corticosteroids and local anaesthetics. There is evidence from clinical trials to support use of topical corticosteroids and *chlorhexidine mouthwash*. Gels and liquids may be more accurately applied using a cotton bud or cotton wool, provided the ulcer is readily accessible. Mouthwashes can be useful where ulcers are difficult to reach.

Chlorhexidine gluconate mouthwash

There is some evidence that *chlorhexidine mouthwash* reduces duration and severity of ulceration. The rationale for the use of antibacterial agents in the treatment of mouth ulcers is that secondary bacterial infection frequently occurs. Such infection can increase discomfort and delay healing. *Chlorhexidine* helps to prevent secondary bacterial infection, but it does not prevent recurrence. It has a bitter taste and is available in peppermint as well as

standard flavour. Regular use can stain teeth brown – an effect that is not usually permanent. Advising the patient to brush the teeth before using the mouthwash can reduce staining. The mouth should then be well rinsed with water as *chlorhexidine* can be inactivated by some toothpaste ingredients. The mouthwash should be used twice a day, rinsing 10 ml in the mouth for 1 min, and continued for 48 h after symptoms have gone.

Topical corticosteroids

Hydrocortisone acts locally on the ulcer to reduce inflammation and pain and is thought to shorten healing time (although evidence is weak). It is available as muco-adhesive tablets (2.5 mg) for use by adults and children over 12. A tablet is held in close proximity to the ulcer until dissolved. This can be difficult when the ulcer is in an inaccessible spot. One tablet is used four times a day. Explain that the tablet should not be sucked, but dissolved in contact with the ulcer. Advise that the treatment is best used as early as possible. Before an ulcer appears, the affected area feels sensitive and tingling – the prodromal phase – and treatment should start then. Corticosteroids have no effect on recurrence.

Local analgesics

Benzydamine mouthwash or *spray* and *choline salicylate dental gel* are short acting but can be useful in very painful ulcers. The mouthwash is used by rinsing 15 ml in the mouth three times a day.

Numbness, tingling and stinging can occur with *benzydamine*. Diluting the mouthwash with the same amount of water before use can reduce stinging. The mouthwash is not licensed for use in children under 12. *Benzydamine spray* is used as four sprays onto the affected area three times a day. Choline salicylate gel is contra-indicated in children under 16 years of age because of possible links with Reye's syndrome.

Local anaesthetics (e.g. lidocaine [lignocaine] and benzocaine)

Local anaesthetic gels are often requested by patients. Although they are effective in producing temporary pain relief, maintenance of gels and liquids in contact with the ulcer surface is difficult. Reapplication of the preparation may be done when necessary. Tablets and pastilles can be kept in contact with the ulcer by the tongue and can be of value when just one or two ulcers are present. Any preparation containing a local anaesthetic becomes difficult to use when the lesions are located in inaccessible parts of the mouth.

Both *lidocaine* and *benzocaine* have been reported to produce sensitisation, but cross-sensitivity seems to be rare, probably because the two agents are from