Aphthous ulcers

Also known as apthae, recurrent aphthous stomatitis (RAS), recurrent oral aphthae, Mikulicz ulcers, Sutton's ulcer, periadenitis mucosa necrotica recurrens (PMNR), canker sores, simple or complex aphthosis, non-sexually acquired genital ulceration (NSGU)

What are aphthous ulcers?

Aphthous ulcers are a common problem with a higher prevalence in high socio-economic areas. They occur most commonly in people aged in the twenties and are more common in men. The ulcers occur mainly in the inside of the mouth but can also occur in genital areas.

What causes aphthous ulcers?

The exact cause of aphthous ulcers is unknown. However, immune dysfunction may play a role in their development. A family history of aphthous ulcers is reported in a third of affected people.

There are some factors that may predispose a person to developing aphthous ulcers which include:

- Trauma
- Vitamin deficiencies (e.g. iron, folate or vitamin B1, B2, B6 & B12)
- Hormonal fluctuations (e.g. menstrual cycle, pregnancy)
- Toothpastes which contain sodium lauryl sulphate
- Smoking cessation
- Psychological stress
- Infections
- Medication allergy (e.g. nicorandil)
- Food hypersensitivities
- Genetic factors
- HIV infection
- Gluten sensitivity or Coeliac disease

What do aphthous ulcers look like?
Aphthous ulcers may occur either as single or multiple round, shallow and painful ulcers with an overlying creamy-white or grey film and red halo. They occur predominantly in the skin inside the mouth but can also occur in the genital areas.

Types of aphthous ulcers

- ***Simple aphthous ulcers***
  This is the most common type of aphthous ulcer and has three main types.

- ***Minor aphthous ulcers***, also known as Mikulicz ulcers, are the most common type. They usually first appear in childhood or adolescence. The ulcers are usually shallow and less than 5 mm in size. There are usually fewer than 6 ulcers present at any one time inside the mouth. The ulcers generally heal in 1 to 2 weeks without leaving a scar. They recur frequently.

- ***Major aphthous ulcers***, also known as Sutton's ulcers, occur less commonly. They also first appear in childhood or adolescence. The ulcers are usually 1 to 3 cm in size, and there are usually fewer than 6 ulcers present at any one time inside the mouth. The ulcers are generally deep and leave a scar when they heal in about 6 weeks. They recur frequently. Sometimes a person may also have a fever or feel unwell, or have raised inflammatory markers in the blood.

- ***Herpetiform aphthous ulcers*** are much less common. They usually appear for the first time in young adults. More females than males are affected. The ulcers are usually 1 to 2 mm in size and there are usually 10 to 100 ulcers present at any one time. They occur on any part of the skin inside the mouth, but often on the underside of the tongue. The ulcers are shallow and heal without leaving a scar. The ulcers are present continuously.

- ***Complex aphthous ulcers***

  In complex aphthous ulcers there are usually multiple ulcers present almost all the time. The diagnosis is made when there are either more than 3 oral ulcers present or there are recurrent oral and genital lesions, occurring in the absence of an uncommon condition called Behcet's disease. Complex aphthous ulcers can be primary (of unknown cause) or secondary to other internal conditions (see below).

- ***Non-sexually acquired genital ulceration (NSGU)***

  Non-sexually acquired genital ulceration (NSGU) refers to complex aphthous ulcers in genital areas. NSGU occurs more commonly in young women. NSGU may be preceded by flu-like symptoms and is possibly linked with viral infections such as the Epstein-Barr virus (EBV). There may be a single ulcer or multiple shallow ulcers. They are extremely painful and the associated oedema (swelling) of the genital area may be severe.

What other problems can occur with aphthous ulcers?

The majority of cases of aphthous ulcers have no associated underlying problems. However, complex aphthous ulcers may be associated with inflammatory bowel disease, HIV infection, EBV infection, cyclic neutropenia, FAPA (fever, aphthous stomatitis, pharyngitis, adenitis), blood deficiencies (iron, zinc, folate, vitamins B1, B2, B6 or B12), gluten sensitivity or Lipschutz ulcer (also known as ulcers vulvae acutum).

How are aphthous ulcers diagnosed?

The diagnosis is usually made based on the appearance of the ulcer. A biopsy is not necessary unless the lesion does not heal within 3 to 4 weeks. A swab of the ulcer is essential to exclude viral, bacterial or candida (thrush) infection.

How are aphthous ulcers treated?

Most recurrent minor aphthous ulcers heal without treatment in a couple of weeks. The main goal of

treatment is to relieve pain, ensure adequate nutrition and ulcer healing and to prevent the ulcers from recurring.

Protective pastes that form a barrier around the ulcer can help with pain relief. Antibacterial mouthwashes should be used regularly to reduce secondary infection. Avoiding toothpaste with sodium lauryl sulphate and trigger foods, reducing stress, ensuring a soft or liquid diet and correcting any predisposing factors such as vitamin deficiencies may also be helpful.

For very painful ulcers, applying a strong topical corticosteroid frequently throughout the day can help with pain relief and wound healing. Topical analgesics can also help with pain relief. Alternative topical options include tacrolimus or tetracycline or superficial cauterisation with silver nitrate. In severe cases, oral prednisolone may be given.

Other medications that have been effective in controlling symptoms include oral tetracyclines, colchicine, pentoxifylline, dapsone, azathioprine, methotrexate, cyclosporine and thalidomide. Biologic agents such as adalimumab, etanercept and infliximab have also been reported to help in severe resistant cases.

What is the likely outcome of aphthous ulcers?

In most people the condition resolves after several years.