CONDITION

Mandibular ameloblastoma

Mandibular ameloblastoma is a usually benign tumour that grows in the lower jaw and can damage nearby bone and teeth.

WHAT IT IS
Benign jaw tumour arising from tooth-forming tissues

BODY SYSTEM
Mouth, teeth and jaw

MAIN SYMPTOMS
Painless jaw swelling, facial asymmetry, loose teeth, altered bite

WHAT CAUSES IT
Usually unknown; acquired cell changes drive growth

HOW IT IS DIAGNOSED
Jaw imaging and tissue biopsy

MAIN TREATMENT
Surgery, sometimes with jaw reconstruction

CAN IT BE CURED?
Yes - complete surgery often removes it

IS IT AN EMERGENCY?
Sometimes - breathing or swallowing difficulty

LONG-TERM OUTLOOK
Often good; long-term recurrence monitoring remains important

Overview

A mandibular ameloblastoma is a tumour that develops in the mandible, or lower jaw. It begins in cells related to tooth development. Most ameloblastomas are benign, meaning they are not cancer and usually do not spread to distant parts of the body.

Even though it is usually benign, an ameloblastoma can grow into nearby jawbone. It may move teeth, damage tooth roots, change the shape of the face or weaken the jaw. It often grows slowly and may become fairly large before causing pain.

Most ameloblastomas occur within the jawbone. The conventional, or solid, type tends to grow into surrounding bone and has a meaningful risk of returning after treatment. A unicystic ameloblastoma looks more like a fluid-filled jaw cyst and may sometimes be managed with less extensive surgery. The exact type can only be determined by examining tissue.

Treatment is planned around the tumour's size, location, microscopic type and previous treatment. Surgery is the main treatment. Long-term follow-up matters because an ameloblastoma can return years after it was removed.

Symptoms

A small ameloblastoma may cause no symptoms. It may first be noticed on a dental X-ray taken for another reason.

When symptoms occur, they may include:

These symptoms can also be caused by dental infections, cysts and other jaw conditions. Their presence does not by itself mean that you have an ameloblastoma.

- Slow, usually painless swelling of the lower jaw
- Facial asymmetry or a change in the jaw's shape
- Loose, displaced or poorly aligned teeth
- A change in how the upper and lower teeth meet
- Difficulty chewing or opening the mouth fully
- Numbness or altered feeling in the lower lip or chin
- Pain, although this is less common than painless swelling

Causes and risk factors

The exact cause is usually unknown. An ameloblastoma develops when cells involved in tooth formation begin growing in an uncontrolled way.

Researchers have found acquired changes in growth-related genes within many of these tumours. For example, changes involving the BRAF or related cell-signalling pathways may be present. These changes usually occur only in the tumour cells. They are not generally changes that you were born with or that you can pass to your children.

There are no well-established lifestyle causes. An ameloblastoma is not caused by poor tooth brushing, eating certain foods or an ordinary dental filling. It is also not contagious.

The condition can occur across a broad age range, although it is more often identified in adults. A previous ameloblastoma is an important risk factor for another tumour in the same area because residual tumour cells can lead to recurrence.

Diagnosis

Your dentist or clinician may first feel an area of jaw expansion or see an abnormal area on a dental X-ray. Ameloblastomas can have several appearances on imaging, so a scan cannot confirm the diagnosis by itself.

Assessment may include:

A pathologist examines the biopsy under a microscope. This confirms whether the growth is an ameloblastoma and helps identify its type. In some cases, molecular testing looks for gene changes that could affect options for treating a difficult or recurrent tumour.

The treatment team may also assess the involved teeth, sensation in the lip and chin, jaw movement and nutrition. Imaging helps show whether the jaw is weakened and whether nearby structures are affected.

- A panoramic dental X-ray to view the teeth and both sides of the jaw
- A CT scan to show bone damage and the tumour's boundaries
- An MRI scan when more detail about soft tissues, nerves or bone marrow is needed
- A biopsy, in which a small tissue sample is removed for laboratory examination

Treatment and management

Treatment is usually coordinated by an oral and maxillofacial surgeon or a head and neck team. The aim is to remove or control the tumour while preserving jaw function and appearance as much as possible.

The main options are:

Treatment planning may involve dental specialists, reconstructive surgeons, speech and swallowing therapists, dietitians and physiotherapists. Before surgery, the team should explain the expected effect on teeth, eating, speech, appearance and feeling in the lower lip or chin.

- Surgical removal: Most ameloblastomas are treated with surgery. Conventional tumours often need removal of the affected jawbone around the visible growth because tumour cells can extend into nearby bone.
- More limited surgery: Enucleation, which removes a growth from its cavity, or curettage, which scrapes the cavity, may be considered for selected unicystic tumours. These approaches preserve more bone but may have a higher recurrence risk in some situations.

- Jaw reconstruction: If part of the mandible is removed, reconstruction may be performed at the same operation or later. Bone and tissue can be transferred from another part of the body, or reconstructive plates may be used.
- Dental rehabilitation: Missing teeth may later be replaced with a removable appliance, bridge or dental implants when healing and reconstruction allow.
- Other treatments: Radiotherapy or medicines that target specific tumour changes may be considered when surgery is not possible, would cause major harm, or has not controlled recurrent tumour. These are specialist options rather than routine treatment for most people.

Complications

Without treatment, an ameloblastoma may continue to expand through the lower jaw. Possible complications include damaged tooth roots, tooth loss, altered bite and weakening of the jaw. A severely weakened mandible can fracture. Large tumours may extend into nearby soft tissues.

Surgery can also have lasting effects. These may include changes in facial shape, missing teeth, reduced jaw movement, numbness, infection or problems with reconstructed bone or dental implants. Rehabilitation can improve many of these effects, although recovery may take time.

Recurrence is an important long-term concern, particularly after limited surgery or treatment of a large conventional tumour. Rarely, an ameloblastoma spreads to another part of the body or develops cancerous features. This is not the expected course for most people.

Prevention

There is no known way to prevent an ameloblastoma. It is not linked to a proven avoidable behaviour, and routine dental care cannot guarantee that it will not develop.

Regular dental check-ups may help find a painless jaw abnormality earlier, especially when dental X-rays are taken for an appropriate reason. Early detection may allow treatment before the tumour causes extensive damage, but screening specifically for ameloblastoma is not routinely recommended.

After treatment, attending scheduled follow-up appointments is the most useful step you can take to detect recurrence early.

Living with it and what to expect

The course over months and years is influenced by the tumour's type and size, the operation performed and whether it has returned before. Many people are successfully treated and return to their usual activities, but recovery after major jaw surgery may take several months.

At first, you may need softer foods while the jaw heals. Swelling, stiffness and altered sensation can improve gradually, although some numbness may remain. Physiotherapy may help if opening the mouth is difficult. Dental restoration often happens after the jaw and any transferred bone have healed.

Changes in facial appearance or eating can affect confidence and social life. Reconstructive care, dental rehabilitation and psychological support can all be relevant parts of recovery rather than optional extras.

Follow-up usually includes examinations and periodic imaging. Monitoring often continues for many years because recurrence can be slow and may appear long after initial treatment. A new swelling does not always mean the tumour has returned, but it should be assessed.

When to get medical help

Arrange a routine dental or medical appointment if you notice a persistent lump or swelling in the jaw, unexplained loose teeth, a lasting change in your bite, or numbness of the lower lip or chin. These symptoms have several possible causes, but they should not be ignored.

If you have already been treated for an ameloblastoma, contact your treatment team about a new lump, increasing jaw fullness, changing sensation or movement of teeth. Continue scheduled follow-up even when you feel well.

Seek prompt medical assessment for:

Call emergency services for trouble breathing, severe difficulty swallowing, uncontrolled bleeding or rapidly worsening mouth or neck swelling. These are emergency symptoms regardless of their cause.

- Swelling that is increasing quickly
- New or worsening difficulty opening your mouth
- Fever, increasing pain, redness or drainage, which may suggest infection
- Difficulty eating or drinking enough
- A suspected jaw fracture after minor force or during chewing

Common questions

Is mandibular ameloblastoma cancer?

Most ameloblastomas are benign and are not classified as cancer. However, they can invade nearby jawbone and return after treatment. Very rare forms can spread or show cancerous changes, but this is not typical.

Can an ameloblastoma be cured completely?

Complete surgical removal can cure many cases. The chance of lasting control is affected by the tumour's microscopic type, size, location and previous treatment. Follow-up remains important because even an apparently complete removal cannot guarantee that it will never return.

Will part of my jaw have to be removed?

Not always. Small or selected unicystic tumours may be suitable for a more limited operation. Larger conventional tumours often require removal of part of the affected jawbone to lower the chance of leaving tumour cells behind. Imaging and biopsy findings guide this decision.

Can an ameloblastoma come back after surgery?

Yes. Recurrence is more likely when the tumour extends beyond the area removed or when a locally invasive type is treated with limited surgery. It may return years later, which is why long-term examinations and imaging are advised.

Will I be able to eat and speak normally after treatment?

Many people regain effective eating and clear speech, especially with reconstruction and rehabilitation. Early recovery may involve soft foods, swelling and jaw stiffness. The longer-term result depends on how much jaw and soft tissue were involved and whether dental restoration is possible.

Sources

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