CONDITION

Glossopharyngeal neuralgia

Glossopharyngeal neuralgia causes sudden, severe pain in the throat, tongue, ear, or jaw.

WHAT IT IS
Recurring shock-like pain from the glossopharyngeal nerve

BODY SYSTEM
Nervous system

MAIN SYMPTOMS
Throat pain, ear pain, tongue-base pain, swallowing-triggered attacks

WHAT CAUSES IT
Blood vessel compression, structural conditions, or unknown

HOW IT IS DIAGNOSED
Characteristic attacks and examination; MRI checks underlying causes

MAIN TREATMENT
Nerve-pain medicines; surgery for persistent severe pain

CAN IT BE CURED?
Sometimes - surgery may give lasting relief

IS IT AN EMERGENCY?
Sometimes - fainting or heartbeat changes during attacks

LONG-TERM OUTLOOK
Often controllable, with possible relapses and remissions

Overview

Glossopharyngeal neuralgia is a nerve pain condition. It causes sudden, severe attacks of pain in areas supplied by the glossopharyngeal nerve, also called the ninth cranial nerve.

This nerve carries sensation from the back of the throat, tonsil area, back of the tongue, and part of the middle ear. It also helps with swallowing and with sensing blood pressure changes in a major neck artery.

The pain is usually on one side. It is often described as stabbing, burning, or like an electric shock. Swallowing, talking, coughing, or yawning may trigger an attack.

Each attack is brief, but attacks can happen repeatedly. This may make eating, drinking, speaking, and brushing the teeth difficult. Some people avoid food because they fear triggering pain.

In uncommon cases, the nerve pain activates nearby parts of the vagus nerve, which helps control heart rate and blood pressure. This can cause a slow heartbeat, low blood pressure, or fainting. These symptoms need prompt medical attention.

Symptoms

The main symptom is a sudden attack of intense pain on one side. The pain may affect one or more of these areas:

An attack often lasts from a few seconds to about two minutes. Several attacks may occur close together. Pain-free periods between attacks can last days, months, or longer, although this is not predictable.

Common triggers include swallowing, chewing, talking, coughing, sneezing, yawning, or clearing the throat. Cold drinks and certain foods may also trigger pain. Some attacks seem to happen without an obvious trigger.

Glossopharyngeal neuralgia may resemble trigeminal neuralgia, which causes electric-shock pain in the face. The two conditions involve different nerves, but pain around the ear or jaw can make them hard to tell apart. Dental problems, throat conditions, and ear conditions can also cause pain in similar places.

Rare symptoms during an attack include dizziness, a very slow or irregular heartbeat, loss of consciousness, or seizure-like movements caused by reduced blood flow to the brain. These symptoms change how urgently the condition must be assessed.

- The back of the throat or tonsil area
- The back or base of the tongue
- Deep inside the ear
- Below the ear or near the angle of the jaw

Causes and risk factors

In classical glossopharyngeal neuralgia, a blood vessel presses against the glossopharyngeal nerve near the brainstem. Repeated pulsation from the vessel may damage the nerve's protective covering. The nerve can then send pain signals in response to ordinary actions such as swallowing.

Sometimes no clear cause is found. This is called idiopathic glossopharyngeal neuralgia.

Secondary glossopharyngeal neuralgia means another condition is affecting the nerve. Possible causes include a growth near the nerve, inflammation, infection, multiple sclerosis, or an abnormality at the base of the skull. Previous surgery, injury, or radiation in the throat and neck area can occasionally be involved.

An elongated styloid process can also irritate nearby structures. The styloid process is a narrow piece of bone below the ear. Symptoms linked to an unusually long styloid process are often called Eagle syndrome.

Glossopharyngeal neuralgia is more often identified in adults, particularly later in life. However, age alone does not establish the cause. A careful assessment is needed because several conditions can produce similar pain.

Diagnosis

There is no single blood test that confirms glossopharyngeal neuralgia. Diagnosis is mainly based on the pattern, location, length, and triggers of the pain.

A medical assessment usually includes questions about where the pain begins, where it travels, and whether swallowing or speaking triggers it. A neurological examination checks the cranial nerves, strength, sensation, balance, and reflexes. The mouth, throat, ears, jaw, and teeth may also need examination.

Magnetic resonance imaging, or MRI, is commonly used to look for a blood vessel touching the nerve and to check for other causes, such as a growth, inflammation, or multiple sclerosis. Magnetic resonance angiography, or MRA, gives a clearer view of blood vessels. A normal scan does not necessarily rule out the condition.

Other tests are selected according to the symptoms. A CT scan may be useful if a bone abnormality such as an elongated styloid process is suspected. Heart monitoring may be needed if attacks cause fainting, dizziness, or a slow heartbeat.

The assessment also considers trigeminal neuralgia, dental pain, temporomandibular joint problems, throat or ear conditions, and other causes of nerve pain.

Treatment and management

Treatment aims to reduce attacks, make eating and speaking easier, and address any underlying cause.

Medicines that calm abnormal electrical activity in nerves are usually considered first. These

are often called anticonvulsants because they are also used for epilepsy, but their use here is for nerve pain. Carbamazepine and oxcarbazepine are commonly used. Other nerve-pain medicines may be considered if these are unsuitable or do not control the pain.

These medicines can cause sleepiness, dizziness, unsteadiness, nausea, or changes in blood sodium levels. Some can affect the liver or blood cells and interact with other medicines. Blood tests and gradual dose changes may therefore be needed. Medicine should not be stopped or changed suddenly without medical guidance.

A local anaesthetic nerve block may provide temporary relief in selected cases. It can sometimes help show whether pain is coming from the glossopharyngeal nerve, but it is not a permanent solution.

Surgery may be considered when attacks remain severe despite medicine, side effects are difficult to manage, or imaging shows a likely blood vessel compression.

Microvascular decompression moves the blood vessel away from the nerve and places material between them. It aims to relieve pressure without deliberately damaging the nerve. It can provide long-lasting relief, but pain may return. As with other operations near the brainstem, possible complications include hearing changes, fluid leakage, infection, stroke, and problems with swallowing or the voice.

Other procedures interrupt or damage pain-carrying nerve fibres. These include rhizotomy and, in some centres, focused radiation treatment. They may reduce pain but can be more likely to cause numbness, hoarseness, or swallowing problems. The choice of procedure is based on the likely cause, general health, imaging findings, and the balance of possible benefits and harms.

If another condition is affecting the nerve, treatment may focus on that cause.

Complications

Repeated pain can make eating and drinking difficult. This may lead to weight loss, dehydration, reduced nutrition, or fear of swallowing. Sleep, work, and social activities may also be disrupted.

Rarely, an attack can trigger a slow heartbeat, low blood pressure, fainting, or an abnormal heart rhythm. Falling during a faint may cause injury.

Treatment can also have complications. Nerve-pain medicines may cause troublesome side effects, while procedures around the glossopharyngeal and vagus nerves can affect swallowing, the voice, or the gag reflex.

New swallowing problems matter because food or liquid can enter the airway instead of the stomach. This is called aspiration and can lead to a lung infection.

Prevention

Glossopharyngeal neuralgia usually cannot be prevented. Blood vessel contact with the nerve, structural abnormalities, and conditions such as multiple sclerosis are not caused by ordinary lifestyle choices.

Avoiding a known trigger may reduce attacks but does not prevent the underlying condition. Soft foods, smaller bites, and drinks at a comfortable temperature may make eating easier during active periods. Avoiding food or fluids for long periods is not safe.

If pain is interfering with eating or drinking, medical review is more appropriate than relying only on trigger avoidance.

Living with it and what to expect

The course differs from person to person. Some people have clusters of attacks followed by pain-free periods lasting months or longer. Others have frequent or gradually worsening attacks. A previous remission does not guarantee that the pain will stay away.

Medicines can control symptoms for many people, although their effect may change over time. Follow-up is used to review pain control, side effects, nutrition, and whether further imaging or treatment is needed. A return of pain does not always mean that a new underlying condition has developed, but a changed pattern should be assessed.

Keeping a brief record of attacks can help show their frequency, location, triggers, and any associated dizziness or faintness. It can also record whether treatment is helping.

During active periods, planning meals and conversations may reduce disruption. Severe restriction of food or drink should not become a long-term coping method. Support may be needed if fear of an attack is causing anxiety, social withdrawal, or loss of sleep.

Surgery can give sustained relief for some people, particularly when a compressing blood vessel is found. It cannot guarantee permanent relief, and the risks need to be weighed against the effect of ongoing pain.

When to get medical help

Arrange a routine medical appointment for repeated, brief, shock-like pain in the throat, tongue, ear, or jaw, especially when swallowing or talking triggers it. Similar symptoms can have several causes, so an assessment is needed rather than self-diagnosis.

Seek prompt medical advice if pain is preventing normal eating or drinking, causing weight loss, or becoming more frequent despite treatment. New hoarseness, persistent difficulty swallowing, hearing changes, facial weakness, or numbness also needs timely assessment.

Call emergency services if an attack is accompanied by:

A person who has fainted should not drive themselves for assessment. Emergency evaluation may include heart monitoring as well as neurological tests.

- Fainting or loss of consciousness
- A very slow, racing, or irregular heartbeat
- Chest pain or severe breathing difficulty
- New weakness, confusion, trouble speaking, or loss of balance
- Seizure-like movements, particularly if they are new

Common questions

What does glossopharyngeal neuralgia feel like?

It usually feels like a sudden stab, electric shock, or intense burning pain deep in the throat, at the back of the tongue, inside the ear, or near the jaw angle. The pain is generally one-sided and brief but may repeat many times.

Is glossopharyngeal neuralgia the same as trigeminal neuralgia?

No. Both cause short attacks of severe nerve pain, but they involve different cranial nerves. Trigeminal neuralgia usually affects the cheek, jaw, forehead, or teeth. Glossopharyngeal neuralgia more often affects the throat, tongue base, deep ear, and area below the ear.

Can glossopharyngeal neuralgia go away on its own?

It can enter remission, meaning attacks stop for a time without the condition necessarily being gone. Remissions may last months or longer, but pain can return. New or returning symptoms still need review, especially if the pattern has changed.

Can it cause fainting?

Yes, but this is uncommon. The glossopharyngeal nerve lies close to nerve pathways that control heart rate and blood pressure. An attack can occasionally cause a slow heartbeat and a sudden fall in blood pressure. Fainting or heartbeat changes during an attack require urgent

assessment.

Is glossopharyngeal neuralgia curable?

Sometimes. Treating an underlying cause may stop the pain. Microvascular decompression can provide lasting relief when a blood vessel is pressing on the nerve, but recurrence is possible. Medicines control attacks rather than removing the cause.

Can dental treatment fix the pain?

Not if the pain is truly coming from the glossopharyngeal nerve. Because ear, jaw, tooth, and throat pain can overlap, dental causes may need to be ruled out. Irreversible dental procedures should not be based only on a pain pattern that has not been clearly assessed.

Sources

- International Headache Society. The International Classification of Headache Disorders, 3rd edition: Glossopharyngeal neuralgia
- National Center for Biotechnology Information. StatPearls: Glossopharyngeal Neuralgia
- MSD Manual Professional Edition. Glossopharyngeal Neuralgia
- Johns Hopkins Medicine. Glossopharyngeal Neuralgia
- Cleveland Clinic. Glossopharyngeal Neuralgia: Causes, Symptoms and Treatment