CONDITION

Salivary gland tumors

Salivary gland tumors are abnormal growths in the glands that make saliva and may be benign or cancerous.

WHAT IT IS
Benign or cancerous growth in a saliva-producing gland

BODY SYSTEM
Mouth, face, and neck glands

MAIN SYMPTOMS
Lump, pain, facial weakness, trouble swallowing

WHAT CAUSES IT
Usually unknown

HOW IT IS DIAGNOSED
Imaging and biopsy with laboratory tissue examination

MAIN TREATMENT
Surgery, sometimes radiation or drug treatment

CAN IT BE CURED?
Sometimes - localized tumors may be removable

IS IT AN EMERGENCY?
Sometimes - breathing difficulty needs emergency care

LONG-TERM OUTLOOK
Often favorable for benign or localized tumors

Overview

Salivary glands make saliva, which moistens your mouth and helps with chewing, swallowing, and digestion. The three pairs of major salivary glands are the parotid glands in front of the ears, the submandibular glands under the jaw, and the sublingual glands under the tongue. Hundreds of smaller glands are found throughout the mouth and throat.

A salivary gland tumor is an abnormal growth of cells in one of these glands. Most tumors in the parotid gland are benign, meaning they are not cancer. Tumors arising in some of the smaller glands are more likely to be malignant, meaning cancerous. A lump's location or appearance cannot confirm whether it is cancer.

Salivary gland tumors include many different cell types. Pleomorphic adenoma and Warthin tumor are common benign forms. Cancerous forms include mucoepidermoid carcinoma,

adenoid cystic carcinoma, acinic cell carcinoma, and salivary duct carcinoma. These names describe how the cells look and behave.

The distinction matters because treatment and follow-up are different for each type. Some benign tumors grow slowly but can become large or return after treatment. Some cancers remain local for years, while others grow or spread more quickly. A tissue examination by a pathologist is needed to identify the type.

Symptoms

The most common symptom is a lump or swelling near the ear, cheek, jaw, mouth, or upper neck. It may be painless and can grow slowly.

Other possible symptoms include:

Facial weakness is particularly important because the facial nerve passes through the parotid gland. This nerve controls facial expression. Weakness does not prove that a tumor is cancerous, but it needs prompt assessment.

Many salivary gland lumps are not tumors. Infections, salivary stones, cysts, and enlarged lymph nodes can cause similar swelling. A lump that persists, enlarges, or feels firm should be checked even when it does not hurt.

- Persistent pain in the face, jaw, ear, mouth, or neck
- Numbness, tingling, or weakness on one side of the face
- Difficulty opening the mouth fully
- Trouble chewing or swallowing
- Fluid draining from the ear
- A sore or swelling inside the mouth
- A difference between the two sides of the face or neck

Causes and risk factors

The cause of most salivary gland tumors is unknown. They begin when cells develop changes that allow them to grow when they normally would not. These changes are usually acquired during life rather than inherited from a parent.

Risk factors for salivary gland cancer include previous radiation exposure to the head or neck, including radiation used for an earlier medical condition. Certain workplace exposures, such as

prolonged exposure to nickel compounds or silica dust, have also been associated with increased risk, although salivary gland cancer remains uncommon.

Some tumor types have specific associations. Warthin tumor, which is usually benign, is strongly associated with tobacco smoking. Certain rare cancers may contain genetic changes or be associated with viruses, but these findings do not explain most salivary gland tumors.

Having a risk factor does not mean that you will develop a tumor. Many people diagnosed with one have no identifiable risk factors.

Diagnosis

Assessment usually starts with a discussion of the lump, including when it appeared, whether it has changed, and whether you have pain, numbness, or facial weakness. The examination may include your mouth, face, ears, jaw, neck, and facial movements.

Imaging helps show where the growth is and whether nearby structures are involved. Ultrasound is often useful for a lump near the skin and can guide a needle biopsy. MRI provides detailed images of soft tissues and nerves. CT may be used to assess deeper structures, bone, lymph nodes, or the chest.

A biopsy removes cells or tissue for examination under a microscope. Fine-needle aspiration uses a thin needle to collect cells. A core-needle biopsy removes a slightly larger tissue sample. These tests may identify whether a growth is benign or malignant, but they do not always provide a final tumor type.

Sometimes the most certain diagnosis comes after surgery, when the entire tumor can be examined. The pathology report describes the tumor type, grade, size, surgical margins, and any involvement of nerves or lymph nodes. Grade describes how abnormal the cancer cells look and may suggest how quickly they could behave.

If cancer is found, further imaging may check whether it has spread. The cancer is then assigned a stage based on its size, local growth, lymph-node involvement, and spread to distant organs. Selected cancers may also undergo molecular testing for cell changes that could guide drug treatment.

Treatment and management

Treatment is based on whether the tumor is benign or cancerous, as well as its location, size, cell type, grade, and stage. Your general health and the possible effects of treatment also matter.

Surgery is the main treatment for most salivary gland tumors. For a benign tumor, the goal is to remove it completely while protecting nearby nerves and other structures. Observation may occasionally be considered when surgery carries substantial risk, but benign tumors are not automatically harmless. Some continue to grow or can return.

For a parotid tumor, surgery may remove part or all of the gland. Because the facial nerve runs through it, surgeons carefully separate the tumor from the nerve when this can be done safely. If a cancer has grown into the nerve, removing part of the nerve may sometimes be necessary. Reconstructive procedures can help restore movement or facial symmetry.

Surgery for cancer may also include nearby lymph nodes, particularly when there is evidence of spread or a meaningful risk that they contain cancer cells.

Radiation therapy uses high-energy rays to damage cancer cells. It may be given after surgery when the cancer has features linked with a greater risk of returning, such as positive surgical margins, high-grade cells, nerve involvement, or lymph-node spread. Radiation may also be used when surgery is not possible or to control symptoms from advanced cancer.

Chemotherapy is not routinely needed for every salivary gland cancer. Drug treatment may be considered for cancer that cannot be removed, has returned, or has spread to distant parts of the body. For selected tumors, testing may identify a target such as an androgen receptor, HER2, or an NTRK gene fusion. A matching targeted treatment may then be considered. Immunotherapy is appropriate only in some situations.

Rehabilitation can be an important part of care. This may include help with facial movement, speech, swallowing, shoulder movement, dry mouth, nutrition, dental health, or emotional adjustment.

Complications

A growing tumor can press on nearby nerves, muscles, the jaw, or the throat. Cancerous tumors may invade these structures or spread to lymph nodes, lungs, bones, liver, or other areas. The pattern of spread differs between tumor types.

Possible effects of surgery include temporary or permanent facial weakness, numbness around the ear, scarring, fluid collection, and changes in appearance. Some people develop sweating or flushing over the cheek while eating. This is called Frey syndrome and happens when healing nerves connect with sweat glands.

Radiation can cause skin irritation, tiredness, changes in taste, mouth soreness, dry mouth, swallowing difficulty, and dental problems. Some effects improve after treatment, while dry mouth or tissue stiffness may last.

Tumors can return after treatment. This can happen with both benign and malignant types. Some cancers, especially adenoid cystic carcinoma, may recur or spread many years later. This is why follow-up may continue after the initial recovery period.

Prevention

Most salivary gland tumors cannot be prevented because their cause is unknown.

Avoiding tobacco may reduce the chance of developing Warthin tumor and provides wider health benefits. Workplace controls that reduce exposure to harmful dusts or chemicals are also sensible where these exposures are present.

Medical radiation is used only when its expected benefit outweighs its risks. If you previously received radiation to the head or neck, this does not mean that you will develop a salivary gland tumor. Tell your healthcare team about that history when a new lump is being assessed.

There is no recommended screening test for salivary gland tumors in people without symptoms.

Living with it and what to expect

Recovery and long-term follow-up depend strongly on the tumor type and treatment. After surgery, swelling, numbness, tightness, and some temporary facial weakness may improve over weeks or months. Permanent nerve damage is possible, particularly when a tumor involves the facial nerve.

Many people with a completely removed benign tumor return to their usual activities after recovery. Follow-up may still be advised because some benign tumors recur, especially if complete removal was difficult.

For cancer, the outlook is generally better when the tumor is small, localized, low grade, and completely removed. High-grade tumors, cancers involving major nerves or lymph nodes, and cancers that have spread are more difficult to control. No single outlook applies to all salivary gland cancers because their behavior differs widely.

Follow-up may include examinations and imaging. The schedule is based on the tumor type, stage, treatment, symptoms, and time since treatment. Long-term review can be important because some recurrences appear years later.

Ongoing effects such as dry mouth, facial weakness, swallowing changes, or altered appearance can affect eating, speaking, work, and confidence. Dental care, saliva substitutes,

physical therapy, speech and swallowing support, reconstructive care, and counseling may help. Most people can continue many ordinary activities, although some need lasting adjustments.

When to get medical help

Arrange a routine medical or dental appointment for:

Seek prompt medical assessment for new facial weakness, facial numbness, rapidly increasing swelling, or worsening swallowing difficulty.

Call emergency services if swelling causes difficulty breathing, severe choking, or an inability to swallow saliva. These symptoms can indicate a blocked airway and should not wait for a routine appointment.

After treatment, contact your care team about a new lump, increasing pain, new facial weakness, unexplained breathlessness, or other persistent changes. Routine follow-up remains important even when you feel well.

- A lump near the ear, jaw, cheek, mouth, or neck that persists
- Swelling that is slowly enlarging
- Ongoing pain near a salivary gland
- Repeated swelling that happens during meals
- Persistent trouble opening your mouth, chewing, or swallowing

Common questions

Is every salivary gland tumor cancer?

No. Many are benign, especially those in the parotid gland. Symptoms and scans cannot always tell the difference, so a biopsy or examination of the removed tumor is needed.

Can a salivary gland lump go away on its own?

Swelling caused by an infection or blocked salivary duct may settle, but a true tumor usually does not disappear without treatment. A persistent lump should be assessed rather than watched indefinitely without medical advice.

Do benign salivary gland tumors need to be removed?

Many are removed because they may continue growing, press on nearby structures, or return if incompletely treated. A small number can rarely change over a long period. The balance

between surgery and observation is individual because surgery near important nerves also has risks.

Will parotid surgery leave my face weak?

Temporary weakness can occur because the facial nerve passes through the parotid gland. Permanent weakness is less common when the nerve can be preserved, but the risk is greater for large tumors or cancers involving the nerve. The surgical team can explain the expected risk before treatment.

Can salivary gland cancer come back after treatment?

Yes. The chance and timing depend on the cancer type, grade, stage, surgical margins, and treatment. Some types can recur many years later, which is why ongoing follow-up may be recommended.

Where does salivary gland cancer spread?

It may spread into nearby tissues or neck lymph nodes. Some types can spread through nerves or travel to distant organs, most often the lungs and sometimes the bones or liver. Not every salivary gland cancer spreads.

Sources

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