CONDITION

Atrial myxoma

Learn about atrial myxoma, a noncancerous heart tumor that can affect blood flow, cause embolism, and usually requires surgical removal.

WHAT IT IS
Benign tumor in an upper heart chamber

BODY SYSTEM
Heart and circulation

MAIN SYMPTOMS
Shortness of breath, fatigue, dizziness or fainting, stroke-like symptoms

WHAT CAUSES IT
Unknown, sometimes inherited

HOW IT IS DIAGNOSED
Microscopic examination of surgically removed tissue

MAIN TREATMENT
Surgical removal

CAN IT BE CURED?
Sometimes - complete removal, but recurrence possible

IS IT AN EMERGENCY?
Sometimes - sudden stroke symptoms or collapse

LONG-TERM OUTLOOK
Recovery varies and recurrence is possible

Overview

An atrial myxoma is a tumor that develops inside one of the heart's upper chambers, called the atria. It is a primary cardiac tumor , meaning it begins in the heart rather than spreading there from another part of the body.

Atrial myxomas are benign, or noncancerous. They do not usually invade nearby tissues or spread to distant organs as cancer can. However, their location inside the heart means they can still cause serious problems. A myxoma may block blood moving through the heart or release material into the bloodstream.

Most atrial myxomas form in the left atrium. They often attach by a stalk to the wall between the two atria, known as the atrial septum. Less often, a myxoma develops in the right atrium or another heart chamber.

A left atrial myxoma may move toward the mitral valve, which controls blood flow from the left atrium into the left ventricle. If the tumor partly blocks this opening, the effect can resemble mitral valve disease. Pieces of the tumor or blood clots on its surface may also break away. These pieces, called emboli, can travel to the brain or other organs.

Symptoms vary based on the tumor's size, location, mobility, and effects on blood flow. Some myxomas are found during testing for another reason. Once identified, they are usually removed surgically because obstruction and embolism can be difficult to predict.

Symptoms

Atrial myxoma can cause three broad types of symptoms: problems with blood flow through the heart, embolism, and whole-body inflammatory symptoms. Not everyone has all three.

Symptoms caused by reduced blood flow may include:

Position-related symptoms can occur because a mobile tumor may temporarily move across a heart valve. A tumor in the right atrium may interfere with blood returning to the heart and can cause swelling or fullness in the neck and abdomen.

Embolic symptoms depend on where tumor material or an attached clot travels. If it reaches the brain, it can cause a stroke or a brief episode of stroke-like symptoms. Emboli can also affect an arm, leg, kidney, spleen, or other organ. A right-sided myxoma may send material toward the lungs, particularly if there is no abnormal opening between the heart chambers.

Some people develop general symptoms such as fever, night sweats, weight loss, muscle or joint aches, or a general feeling of being unwell. These may result from inflammatory signals produced in response to the tumor. Because these symptoms can occur with infections, autoimmune diseases, and cancers, testing is needed to find the cause.

Seek emergency care for sudden facial drooping, weakness or numbness on one side, difficulty speaking, sudden vision loss, severe breathing difficulty, fainting, or new severe chest pain. These can be signs of stroke, major obstruction, or another medical emergency.

Symptoms such as ongoing fatigue, unexplained fever, gradual shortness of breath, or reduced exercise tolerance usually call for a routine medical appointment rather than emergency care. Contact a clinician sooner if symptoms are worsening quickly or repeatedly cause near-fainting.

- Shortness of breath, especially during activity or while lying flat
- Unusual tiredness or reduced ability to exercise
- Dizziness, lightheadedness, or fainting

- Awareness of a fast or irregular heartbeat
- Swelling in the legs or abdomen
- Breathing difficulty or faintness that changes with body position

Causes and risk factors

The exact process that causes most atrial myxomas is not known. Most occur sporadically, meaning there is no clear inherited cause or family pattern. They arise from cells within the inner structures of the heart.

A smaller group is related to an inherited condition, especially Carney complex . This rare genetic syndrome can cause heart myxomas, changes in skin coloring, hormone-related tumors, and other growths. It is often linked to a disease-causing change in the PRKAR1A gene and can be passed from parent to child.

Features that may raise concern for an inherited form include:

These features do not confirm a genetic condition. A clinician or genetic counselor can review the personal and family history and discuss whether genetic testing is appropriate.

Common lifestyle factors associated with coronary artery disease, such as diet or cholesterol levels, are not established causes of atrial myxoma. A myxoma is also different from a blood clot, although clots can form on its surface and may look similar on some imaging tests.

- A myxoma diagnosed at a younger age
- More than one myxoma
- Tumors in unusual heart locations
- A myxoma that returns after removal
- A close relative with a cardiac myxoma or Carney complex
- Certain skin pigment changes or endocrine tumors

Diagnosis

Diagnosis usually starts with a review of symptoms, a physical examination, and imaging of the heart. A clinician may hear a heart murmur or other abnormal sound, but examination findings can change as a mobile tumor shifts position. A normal examination does not rule it out.

Transthoracic echocardiography is often the first imaging test. This ultrasound test uses a

probe placed on the chest to show the heart chambers, valves, blood flow, and movement of a possible mass. It does not use radiation.

A transesophageal echocardiogram , or TEE, may provide more detailed images. During TEE, a thin ultrasound probe is passed into the esophagus after sedation and throat numbing. Because the esophagus lies close to the heart, this test can help define where the tumor attaches, how it moves, and whether it affects a valve.

Cardiac magnetic resonance imaging, called cardiac MRI, or cardiac computed tomography, called cardiac CT, may help characterize the mass and plan treatment. These tests can provide information about its size, location, attachment, and relationship to nearby structures. The choice depends on the clinical situation and whether MRI or contrast material can be used safely.

Blood tests cannot diagnose an atrial myxoma. They may show anemia or signs of inflammation, but these findings are not specific. Other testing may be needed if symptoms suggest stroke, reduced blood flow to an organ, infection, or another condition.

Doctors must distinguish a myxoma from other possible masses, including a blood clot, an infected growth on a valve, or another type of tumor. The final diagnosis is commonly confirmed after surgery, when a pathologist examines the removed tissue under a microscope.

If personal or family features suggest Carney complex, genetic counseling and evaluation for related conditions may be offered.

Treatment and management

Surgical removal is the standard treatment for an atrial myxoma. Even though the tumor is benign, leaving it in place may allow it to block blood flow or release emboli. Surgery is therefore often planned promptly after the diagnosis and the person's overall condition have been assessed.

The operation is performed under general anesthesia with a heart-lung bypass machine supporting circulation. The surgeon opens the appropriate heart chamber and removes the tumor, its stalk, and a small amount of the tissue where it attaches when feasible. Any resulting opening is repaired. The surgeon may also evaluate or repair a nearby valve if it has been affected.

The removed tissue is sent for laboratory examination to confirm what type of tumor it is. Recovery depends on the operation, the person's health, and whether complications such as stroke or heart failure occurred before surgery.

There is no medicine that reliably dissolves or cures a myxoma. Blood-thinning medicine is not

a substitute for tumor removal. It may be considered for a separate reason, such as certain blood clots or heart rhythm disorders, but that decision requires an individual assessment of benefits and bleeding risk.

Before surgery, clinicians may manage symptoms caused by fluid buildup, abnormal rhythms, or other medical problems. These measures support the person's condition but do not remove the tumor.

People with an inherited syndrome may need care involving cardiology, genetics, endocrinology, and other specialties. Their relatives may also be offered counseling or screening based on the family's findings.

Complications

Possible complications arise mainly from blocked blood flow or embolism. A tumor near the mitral valve can interfere with blood moving through the left side of the heart. This may lead to fluid buildup in the lungs, increased pressure in lung blood vessels, or heart failure.

An embolus from a left atrial myxoma can cause a stroke or interrupt blood supply to an arm, leg, or internal organ. A blocked limb artery may cause sudden pain, paleness, coldness, numbness, or weakness and needs urgent assessment.

Atrial myxoma may also contribute to abnormal heart rhythms. In severe cases, sudden and complete blockage of a valve opening can cause collapse. This is uncommon, but it is one reason surgery is generally not delayed unnecessarily.

Myxomas can return after removal. Recurrence is more concerning when the first tumor was not completely removed or when a person has multiple tumors, a family history, or Carney complex.

Follow up

After surgery, follow-up focuses on healing, heart function, and checking for recurrence. Appointments may include an examination, review of symptoms, and echocardiography. There is no single imaging schedule that applies to everyone. Timing depends on the tumor's features, the operation, pathology results, and whether an inherited syndrome is suspected.

During recovery, the surgical team will give guidance about wound care, activity, driving, work, and cardiac rehabilitation when appropriate. New fever, increasing wound redness or drainage, worsening shortness of breath, or a new irregular heartbeat should be reported promptly.

Longer-term routine follow-up is especially important for people with Carney complex, a family history, multiple tumors, or a previous recurrence. Family members should not assume that they need testing without first discussing the family history with a clinician or genetic counselor.

After treatment, seek emergency help for sudden stroke symptoms, fainting, severe breathing difficulty, or new severe chest pain. Symptoms that develop gradually, such as increasing fatigue or reduced exercise tolerance, should be discussed at a routine or earlier follow-up visit depending on their severity.

Sources

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