CONDITION

Mediastinitis

Mediastinitis is serious inflammation or infection in the space between the lungs.

WHAT IT IS
Inflammation or infection in the central chest

BODY SYSTEM
Chest, breathing, and circulation

MAIN SYMPTOMS
Chest pain, fever, breathlessness, trouble swallowing

WHAT CAUSES IT
Infection, usually after surgery or an esophageal leak

HOW IT IS DIAGNOSED
Chest CT, cultures, and tests for an esophageal leak

MAIN TREATMENT
IV antibiotics, drainage, surgery, and source control

CAN IT BE CURED?
Sometimes - acute infection can clear; chronic scarring usually remains

IS IT AN EMERGENCY?
Yes - suspected acute mediastinitis needs immediate hospital care

LONG-TERM OUTLOOK
Often recoverable early; delayed infection or scarring can cause lasting problems

Overview

Mediastinitis is inflammation in the mediastinum, the space in the middle of your chest between the lungs. This area contains the heart, major blood vessels, windpipe, esophagus, and nearby lymph nodes.

Most cases are acute mediastinitis , which develops quickly because bacteria or other germs have entered this space. It can happen after chest surgery, through a tear in the esophagus, or when a serious infection spreads down from the neck. Because the infection is close to vital organs, acute mediastinitis requires immediate hospital treatment.

A less common form is fibrosing mediastinitis . In this condition, dense scar-like tissue develops gradually in the mediastinum. The tissue can narrow airways or blood vessels. It is usually not an infection that needs emergency antibiotics like amoxicillin or doxycycline , although severe breathing problems or blocked blood flow can become urgent.

These forms have different causes and treatments. Doctors use your symptoms, recent medical history, and imaging results to work out which process is present.

Symptoms

Acute mediastinitis often causes symptoms that worsen over hours or days. They may include:

Symptoms sometimes give clues about the cause. Sudden chest pain after forceful vomiting can occur with an esophageal tear. After open-heart or other chest surgery, warning signs include increasing pain around the breastbone, redness, drainage, an opening wound, or movement and clicking in the breastbone.

Older adults and people with a weakened immune system may not develop a high fever. New confusion, marked weakness, or rapid breathing can still signal a serious infection.

Fibrosing mediastinitis usually develops more slowly. Symptoms come from pressure on structures in the chest. You may have persistent coughing, breathlessness, repeated chest infections, chest discomfort, or coughing up blood. Narrowing of a major vein can cause swelling of the face, neck, or arms and enlarged veins over the chest.

These symptoms can have many other causes. They cannot confirm mediastinitis without medical assessment and testing.

- Severe or increasing chest pain
- Fever, chills, or feeling unusually unwell
- Shortness of breath or rapid breathing
- Pain or difficulty when swallowing
- A fast heartbeat
- Neck swelling or a crackling feeling under the skin

Causes and risk factors

Acute mediastinitis happens when germs enter the mediastinum or spread there from nearby tissue.

One important cause is infection after an operation that opens the breastbone, called a sternotomy. The infection may involve the surgical wound, the breastbone, and deeper chest tissues. Diabetes, obesity, smoking, poor nutrition, and conditions that weaken the immune system can increase the chance of surgical wound problems. However, mediastinitis can occur

without these factors.

Another cause is a hole or tear in the esophagus. This is called esophageal perforation . The esophagus carries food and liquid from your throat to your stomach. If it tears, saliva, food, and germs can leak into the chest. A tear may follow forceful vomiting, an endoscopy or other procedure, trauma, a swallowed object, or damage from an esophageal condition.

A severe dental, throat, or deep neck infection can occasionally spread downward into the chest. This is called descending necrotizing mediastinitis. Injuries and infections spreading through the bloodstream are less common causes.

Fibrosing mediastinitis has a different process. It is linked in some people to an unusually strong immune response after infection with Histoplasma , a fungus found in soil in certain regions. Tuberculosis, radiation treatment, immune-related conditions, and some medicines have also been associated with mediastinal scarring. In many cases, no cause is found.

Diagnosis

Diagnosis usually begins with an urgent chest CT scan. CT creates detailed cross-sectional images and can show air, fluid, inflammation, an abscess, or changes around the breastbone. It can also show whether scar tissue is narrowing an airway or blood vessel.

Blood tests can show signs of inflammation, infection, or organ stress, but they do not confirm mediastinitis by themselves. Blood cultures may identify germs circulating in the bloodstream. Fluid or tissue collected from a wound, drain, or operation can also be tested.

If an esophageal tear is suspected, you may have a contrast swallow study. You swallow a liquid that appears on X-rays so doctors can look for a leak. CT with contrast may provide additional information. Endoscopy, which uses a flexible camera to examine the esophagus, is used selectively because the safest test depends on the location and type of suspected injury.

An operation may both confirm acute mediastinitis and treat it. Surgeons can inspect the area, collect cultures, drain infected material, and remove damaged tissue.

For fibrosing mediastinitis, CT or MRI shows the location and extent of the scar tissue. Additional scans, a camera examination of the airways, or blood-vessel imaging may be needed. A biopsy is sometimes used to rule out cancer or another condition that can look similar.

Treatment and management

Acute mediastinitis is treated in hospital. Care usually begins before every test result is available because the condition can progress quickly.

Treatment commonly includes intravenous antibiotics that cover several likely bacteria. Culture results then help the medical team choose more targeted treatment. Antifungal treatment is needed only when a fungal infection is identified or strongly suspected.

Most people also need a procedure to control the source of infection. This may involve draining infected fluid, washing out the mediastinum, removing dead tissue, or repairing an esophageal tear. If an infected breastbone or surgical wound is involved, treatment may include repeated cleaning procedures, wound therapy using controlled suction, and later wound closure or reconstruction.

Some small, contained esophageal leaks can be managed with close monitoring, drainage, antibiotics, and an endoscopic treatment such as a stent or clip. This is suitable only in selected circumstances.

Supportive care may include oxygen, breathing support, intravenous fluids, pain relief, and nutrition given through a feeding tube or vein while the esophagus heals. The exact approach is based on the cause, the structures involved, and how unwell you are.

Fibrosing mediastinitis is managed differently. Antibiotics do not remove established scar tissue. If scarring is mild and stable, monitoring may be enough. A narrowed blood vessel or airway may sometimes be opened with a stent or another procedure. Surgery can be difficult because the tissue may surround vital structures. Treatment aimed at inflammation is considered in selected cases when there is evidence of an active immune process.

Complications

Acute infection can spread into the bloodstream and cause sepsis, a dangerous whole-body reaction to infection. It can also produce abscesses or spread around the lungs or heart.

Other possible complications include damage to the breastbone, abnormal connections called fistulas, breathing failure, blood clots, and injury to major blood vessels. An esophageal leak may continue if it does not close.

Fibrosing mediastinitis can gradually narrow the windpipe, lung airways, pulmonary blood vessels, or the large vein that returns blood from the upper body. This may lead to repeated infections, reduced blood flow through a lung, coughing up blood, or swelling of the face and arms.

Prompt treatment lowers the risk of complications, but severe or widespread mediastinitis can be life-threatening.

Prevention

Not every case of mediastinitis can be prevented.

Hospitals use sterile surgical techniques, preventive antibiotics when appropriate, careful skin preparation, and blood sugar management to reduce infections after chest surgery. If you smoke, stopping before a planned operation can support wound healing. Follow the wound-care and activity instructions given after surgery, including limits on lifting while the breastbone heals.

Seek medical care for increasing redness, drainage, pain, or separation of a chest incision. Early treatment of a wound infection may reduce the chance of it spreading more deeply.

Esophageal injuries are not always preventable. Do not delay medical assessment for severe chest pain after forceful vomiting, a chest injury, swallowing a sharp object, or a procedure involving the esophagus.

There is no reliable way to prevent fibrosing mediastinitis. Most people exposed to organisms such as Histoplasma do not develop this scarring response, and it is not possible to predict who will.

Living with it and what to expect

Recovery from acute mediastinitis often takes weeks or months. The first part may involve a hospital stay, more than one procedure, and a period of limited eating or activity. Recovery time is affected by the source of infection, how quickly it was controlled, and whether the heart, lungs, esophagus, or breastbone were damaged.

After discharge, follow-up may include wound checks, blood tests, imaging, nutritional support, and rehabilitation. Tiredness and reduced strength are common after a major infection and prolonged hospital stay. Activity can usually increase gradually under the guidance of your care team.

Many people recover after early source control and effective antibiotics. Others have ongoing swallowing problems, chest discomfort, reduced stamina, or further wound treatment. A delayed diagnosis or extensive infection is associated with a more difficult course.

Fibrosing mediastinitis can remain stable, or it can cause increasing narrowing over time. Follow-up focuses on breathing, circulation, repeat infections, and changes on imaging. Stents and other procedures may improve blood flow or breathing, although narrowing can return and require further treatment.

Routine appointments are important after treatment, even when you feel better. They are

different from emergency care for sudden chest pain, major breathing difficulty, fainting, or rapidly increasing swelling.

When to get medical help

Call emergency services now for severe or rapidly worsening chest pain, serious trouble breathing, fainting, blue or grey lips, new confusion, or coughing up a large amount of blood.

You also need immediate assessment for chest pain or breathlessness with fever, especially after chest surgery, forceful vomiting, a chest injury, or a procedure involving the esophagus.

After chest surgery, contact the surgical team urgently for increasing wound drainage, spreading redness, wound separation, or new movement or clicking in the breastbone. Do not wait for a routine appointment if these changes occur with fever, weakness, or breathing difficulty.

For known fibrosing mediastinitis, seek urgent care for new face or neck swelling, rapidly worsening breathlessness, fainting, or coughing up blood.

Routine follow-up is appropriate for stable symptoms, recovery checks, wound monitoring, and discussion of ongoing cough, reduced stamina, or swallowing difficulty that is not suddenly worsening.

Common questions

Is mediastinitis contagious?

Mediastinitis itself is not contagious. It usually results from germs entering the chest through a wound, an esophageal leak, or spread from a nearby infection. Fibrosing mediastinitis also does not spread from person to person.

Can mediastinitis be cured?

Acute mediastinitis can sometimes be cured when the infection is treated and its source is repaired or drained. Early treatment improves the chance of recovery. Established fibrosing mediastinitis usually cannot be removed completely, but procedures may relieve narrowing and symptoms.

Can mediastinitis be treated without surgery?

Some carefully selected, contained esophageal leaks may be treated without open surgery. However, acute mediastinitis often requires drainage, removal of infected tissue, or repair of the source. Antibiotics alone cannot reliably clear trapped infected fluid or close a large tear.

How long does recovery take?

Recovery often takes several weeks or months, particularly after major surgery or sepsis. Wound healing, nutrition, strength, and swallowing may recover at different rates. Fibrosing mediastinitis may require long-term monitoring rather than a single recovery period.

Can mediastinitis come back?

It can. Infection may return if a wound, bone infection, or esophageal leak has not fully healed. Fibrosing mediastinitis can also progress or cause renewed narrowing after treatment. New or worsening symptoms need reassessment.

Is mediastinitis the same as a mediastinal mass?

No. Mediastinitis means inflammation or infection in the mediastinum. A mediastinal mass is a growth or enlarged structure in that space. Imaging and sometimes a biopsy are needed because inflammation, scar tissue, and tumors can look similar.

Sources

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