

Pericardial Effusion

What is pericardial effusion?

Pericardial effusion, sometimes referred to as “fluid around the heart,” is the abnormal build-up of excess fluid that develops between the pericardium, the lining of the heart, and the heart itself.

What causes pericardial effusion?

Pericardial effusion, and the possible inflammation of the pericardium resulting from it (called pericarditis), is caused by several conditions:

- Infection such as viral, bacterial or tuberculosis
- Inflammatory disorders, such as lupus
- Cancer that has spread to the pericardium
- Kidney failure with excessive blood levels of nitrogen
- Following heart surgery

Why is pericardial effusion serious?

The seriousness of the pericardial effusion depends on its cause and size of the effusion. Effusions caused by some of the causes can be treated or controlled by medicines. Pericardial effusion caused by other conditions, such as cancer, is very serious and should be diagnosed and treated promptly. Rapid fluid accumulation in the pericardium can cause severe compression of the heart called cardiac tamponade that impairs its ability to function. Cardiac tamponade resulting from pericardial effusion can be life-threatening

What are the symptoms of pericardial effusion?

Many patients with pericardial effusion have no symptoms. The condition is often discovered on a chest x-ray or echocardiogram that was performed for another reason. Initially, the pericardium may stretch to accommodate excess fluid build-up. Therefore, signs and symptoms may not occur until a large amount of fluid has collected over time. As the fluid builds up it may cause compression of surrounding structures, such as the lung, stomach or phrenic nerve (a nerve that connects to the diaphragm). Symptoms also may occur due to heart failure. The symptoms of pericardial effusion include:

- Chest pressure or pain
- Shortness of breath
- Nausea
- Abdominal fullness
- Difficulty in swallowing

How is pericardial effusion diagnosed?

The tests most commonly used to diagnose and evaluate pericardial effusion include:

- Chest x-ray
- Computed tomography (CT) scan of the chest
- Echocardiogram
- Pericardiocentesis: a procedure that uses a needle to remove fluid from the pericardium; the fluid is then examined to determine the cause of the effusion

How is pericardial effusion treated?

Treatment of pericardial effusion depend on the underlying condition that is causing it and if the effusion is leading to severe symptoms, such as shortness of breath or difficulty breathing. This treatment is carried out under the guidance and supervision of a heart specialist (a cardiologist).

Medical management: A variety of medicines such as nonsteroidal anti-inflammatory drugs that reduce the inflammation, diuretics and other heart failure medications or antibiotics may be used to treat pericardial effusions depending on the underlying cause. If a pericardial effusion is related to

the presence of cancer, treatment may include chemotherapy, radiation therapy, or medication infused within the chest. Procedures to treat pericardial effusion: If the pericardial effusion is large enough to cause respiratory symptoms or cardiac tamponade it should be drained to remove the excess fluid, prevent its re-accumulation, or treat the underlying cause of the fluid buildup. Pericardial effusions that cannot be managed by medical treatment require drainage in some form.

What are the different ways of draining a pericardial effusion?

Ultrasound-guided pericardiocentesis: In this procedure excess fluid is removed under ultrasound guidance.

Thoracoscopic pericardial window: This is a minimally-invasive operation performed under general anesthesia. This is used when the cause of the pericardial effusion remains unknown or to drain the excess fluid and prevent its re-accumulation. The surgeon makes three small incisions and places tube called cannulas through the chest wall. To look inside the chest, the surgeon passes a telescope connected to a miniature video camera through one of the cannulas. The video camera picks up the picture of the inside of the chest cavity and transmits it to a television screen. The surgeon then carries out the operation with the help of special instruments introduced inside the chest through other cannulas and by observing the picture of the operative site on the television screen. The pericardial sac is opened and the fluid is drained. Usually a portion of the pericardium is removed so that any fluid collecting in the future drains into the chest cavity and gets absorbed. At the end of the surgery usually a small tube is placed in the chest cavity through one of the small incisions used for placing the cannulas. These tube drains out the fluid or air that may collect inside after surgery. It is removed after a few days.

Advantages of thoracoscopic pericardial window

- Less pain from the incisions after surgery
- Shorter hospital stay
- Shorter recovery time
- Faster return to work or normal activity
- Better cosmetic healing

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Disclaimer

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