Pericardial Effusion

Derrame pericárdico

INTRODUCTION

The heart is enclosed in a membrane called ***pericardium***. It is made up of two layers, an inner layer attached to the heart and an outer layer that limits with the other structures of the chest cavity. Both layers are separated by a small amount of lubricating serous fluid, called **pericardial fluid.**

Inflammation of the pericardial membrane results in a clinical entity called **pericarditis**. In some cases, the inflammation can cause significant increase of pericardial fluid, which is named **pericardial effusion**. If excess fluid accumulates and compresses the surrounding heart structures, mainly the right chambers, it causes **cardiac tamponade** (**Figure 1**).

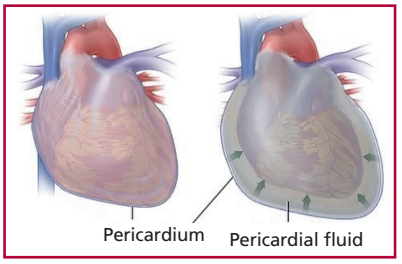

Fig. 1. Normal heart. Pericardial effusion

COMMON CAUSES OF PERICARDIAL EFFUSION

Percutaneous aortic valve implantation is an effective and less invasive technique to replace the stenotic aortic valve. A stent-mounted biological valve (Figure 1) is inserted into the stenotic aortic valve, turning this approach more convenient for inoperable or high surgical risk patients.

Today, the most common access route to insert the new prosthesis is the femoral artery (puncture or small incision in the groin), but accessing through the ventricular tip with a minimal incision is also possible.

The advantage of the femoral approach is that surgery is performed under local anesthesia.

Fig. 2. Chest X-ray

SYMPTOMS

- Shortness of breath (dyspnea).
- Chest pain.
- Increased heart rate (tachycardia).
- Increased volume of the jugular vein in the neck (jugular engorgement).
- Decreased blood pressure during deep breathing (pulsus paradoxus).

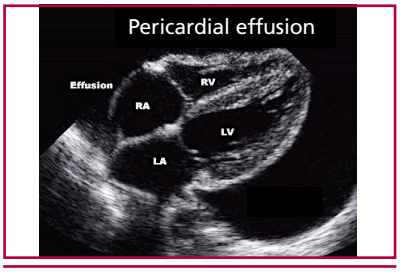

Fig. 3. Echocardiography

DIAGNOSTIC TESTS

- Clinical record, history of chronic diseases and complete physical examination.
- ECG: it usually shows reduced voltage of the tracing representing heart rate or arrhythmias.
- Chest x-ray: it usually shows significant increase of heart size. **Fig. 2**
- Echocardiography: it is the most important diagnostic test, because it confirms the presence of abundant fluid around the heart, and also of right chamber compression. **Fig. 3**

TREATMENT

Treatment depends on the degree of patient involvement, which is generally associated with the volume of fluid accumulated and the time such volume has taken to increase. Slow build-up can tolerate a large volume of fluid, as usually occurs with cancer, whereas in the case of abrupt build-up, with low volume, evacuation of the fluid may be required.

THERAPEUTIC OPTIONS:

- Anti-inflammatory drugs: particularly for chest pain and inflammation.
- Drainage of the pericardial fluid with a catheter (pericardiocentesis).
- Surgical treatment: a "passage" between the pericardium and the pleura to drain the fluid (window); pericardial resection.

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INFORMATION ON THE WEB

- 2015 ESC Guidelines for Diagnosis and Management of Pericardial Diseases http://www.revespcardiol.org/es/guias
- Consensus on Pericardial Diseases. 2014. SAC https://www.sac.org.ar