

Pericarditis (pathology)

Definition: inflammation of the pericardium, of infectious or non-infectious origin, non-specific or specific.

Etiology

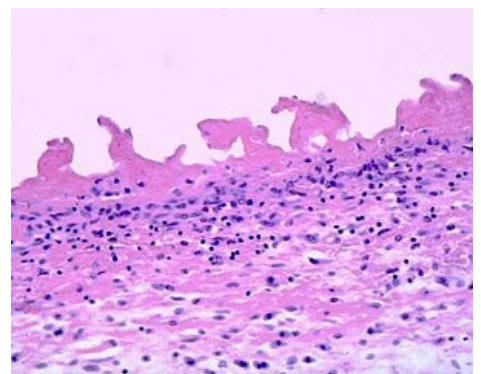
1. **Infectious pericarditis**- the penetration of microorganisms (pneumococcus, pyogenic bacteria, mycobacteria, viruses (Coxsackie, ECHO, adenoviruses, mononucleosis and parotitis virus)) into the pericardial cavity, where they multiply and exert their toxins on the serosa (and possibly also directly on the myocardium), their cause may be:
 - introduction of infection into the pericardial cavity by trauma (perforating wounds);
 - eruption of a purulent deposit in the myocardium into the pericardial cavity;
 - passage of infectious processes from the surrounding area (pleura, lungs, mediastinum, oesophagus, peritoneum, liver) either directly or lymphatically (so-called induced pericarditis - e.g. in subdiaphragmatic abscess);
 - by blood in bacteraemia, sepsis, pyaemia.
2. **Non-infectious pericarditis**
 - pericarditis epistocardiaca above an infarct site;
 - uremic pericarditis;
 - around surgical wounds;
 - in SLE and other collagenoses (dermatomyositis, scleroderma);
 - after irradiation.

Classification of pericarditis

1. exudative;
2. productive (mostly reparative phase of exudative inflammation);
3. specific.

Pericarditis serosa

- It is characterized by the accumulation of serous fluid in the pericardial sac, which thereby expands.
- The fluid is an inflammatory effusion (exudate) - it contains proteins, fibrin (with a large amount of fibrin, we speak of sero-fibrinous inflammation), exfoliated epithelia and a small number of leukocytes - it is turbid, the epicardium itself is dull, with fine fibrin infiltrations and reddened (hyperemia), not infrequently with small hemorrhages (ecchymoses).
- Healing is usually by simple attenuation of exudation and replacement of surface defects by regeneration from the surrounding area.



Pericarditis fibrinosa - histological slide

Pericarditis fibrinosa

- Fibrin predominates over free fluid (if the serous fluid is almost completely absent, the pericardium and epicardium are glued together by pure fibrinous exudate - pericarditis fibrinosa sicca), on the surface of both epicardium and pericardium there is a yellowish whitish-grey layer of fibrin, the surface is uneven (due to the displacement of both leaves one after the other they form protuberances and villi - cor villosum, hirsutum).
- The healing of fibrinous pericarditis usually passes into the productive form.

Pericarditis haemorrhagica

- The presence of erythrocytes in the exudate is typical for sepsis with hemorrhagic diathesis, uremic pericarditis, some infections (variola, anthrax), tuberculosis, pericardial carcinomatosis.
- It can be distinguished from hemopericardium by the fact that the exudate remains fluid, whereas in hemopericardium the heart is coated with coagulae.

Pericarditis purulenta

- An admixture of neutrophils in the exudate (they also infiltrate the epicardium), which is yellow to green, thicker or thinner, often beginning as fibrinous inflammation.

Pericarditis putrida

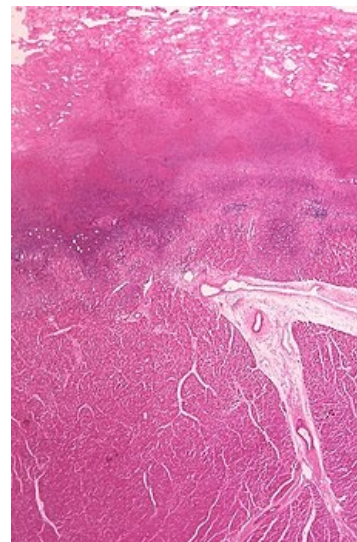
- Characterized by a murky, dirty green, foul-smelling exudate, it is caused either by infection with pathogenic anaerobes or by mixed infection with banal pyogenic bacteria and non-pathogenic putrefactive bacteria (e.g.

Pericarditis productiva

- Usually as a reparative phase of non-specific and specific inflammation, it is initially manifested by fibrin pablana being fixed to the surface of the epicardium or pericardium and unable to be peeled off smoothly, after which the fibrin is replaced from the base to the surface by granulation tissue.
- Pericardial adhesion with epicardium may occur (circumscribed - striated adhesion, diffuse - flat adhesion - up to obliteration of the pericardial cavity), dystrophic calcification may occur at the site of adhesion - pericarditis petrosa (armored heart).
- The ligamentous thickening strangles the mouth of the hollow veins or constricts the heart and prevents diastolic expansion of the ventricles - pericarditis constrictiva.
- In adhesive mediastinopericarditis, adhesions radiate from the outer surface of the pericardium to the sternum or lungs and fix the heart to them.

Pericarditis tuberculosa

- It arises either by haematogenous spread in miliary tuberculosis or lymphogenously from tuberculous mediastinal nodes, or by direct passage from caseated tracheobronchial nodes.
- Manifestation:
 1. serofibrinous exudate - it is usually hemorrhagic, mycobacteria and histiocytes are found in it, sometimes the image of cor hirsutum is formed, in case of exudate caseification we speak of pericarditis caseosa;
 2. yellowish nodules in the pericardium - after fibrin sloughing, microscopically caseous necrosis with histiocytes and epithelioid and Langanes cells.
- Pronounced proliferative phase, leading to obliteration of the pericardial cavity, tendency to calcification - armoured heart (its finding is most common just in tuberculous pericarditis).



Pericarditis tuberculosa – histological slide

Links

Related articles

- pericarditis - internal
- pericarditis - pediatrics

Source

- PASTOR, Jan. *Langenbeck's medical web page* [online]. [cit. 25.10.2010]. <<http://langenbeck.webs.com>>.