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## Causes of pericardial disease

<b>Idiopathic (presumed to be viral, postviral, or immune-mediated)</b>
In most case series, the majority of patients are not found to have an identifiable cause of pericardial disease. Frequently such cases are presumed to have a viral or autoimmune etiology.
<b>Infectious</b>
Viral – Coxsackievirus, echovirus, adenovirus, Epstein-Barr virus, cytomegalovirus, influenza, varicella, rubella, HIV, hepatitis B, mumps, parvovirus B19, vaccinia (smallpox vaccine), severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)
Bacterial – <i>Mycobacterium tuberculosis</i> (most common cause in countries where tuberculosis is endemic), <i>Staphylococcus</i> , <i>Streptococcus</i> , <i>Haemophilus</i> , <i>Neisseria</i> ( <i>N. gonorrhoeae</i> or <i>N. meningitidis</i> ), <i>Chlamydia</i> ( <i>C. psittaci</i> or <i>C. trachomatis</i> ), <i>Legionella</i> , <i>Salmonella</i> , <i>Borrelia burgdorferi</i> (the cause of Lyme disease), <i>Mycoplasma</i> , <i>Actinomyces</i> , <i>Nocardia</i> , <i>Tropheryma whippelii</i> , <i>Treponema</i> , <i>Rickettsia</i>
Fungal – <i>Histoplasma</i> , <i>Aspergillus</i> , <i>Blastomyces</i> , <i>Coccidioides</i> , <i>Candida</i>
Parasitic – <i>Echinococcus</i> , amebic, <i>Toxoplasma</i>
Infective endocarditis with valve ring abscess
<b>Noninfectious</b>
<b>Autoimmune and autoinflammatory</b>
Systemic inflammatory diseases, especially lupus, rheumatoid arthritis, scleroderma, Sjögren syndrome, vasculitis, mixed connective disease
Autoinflammatory diseases (especially familial Mediterranean fever and tumor necrosis factor associated periodic syndrome [TRAPS], IgG4-related disease)
Postcardiac injury syndromes (immune-mediated after cardiac trauma in predisposed individuals)
Other – Granulomatosis with polyangiitis (Wegener), polyarteritis nodosa, sarcoidosis, inflammatory bowel disease (Crohn, ulcerative colitis), Whipple, giant cell arteritis, Behçet syndrome, rheumatic fever
<b>Neoplasm</b>
Metastatic – Lung or breast cancer, Hodgkin disease, leukemia, melanoma
Primary – Rhabdomyosarcoma, teratoma, fibroma, lipoma, leiomyoma, angioma

Paraneoplastic
<b>Cardiac</b>
Early infarction pericarditis
Late postcardiac injury syndrome (Dressler syndrome), also seen in other settings (eg, post-myocardial infarction and post-cardiac surgery)
Myocarditis
Dissecting aortic aneurysm
<b>Trauma</b>
Blunt
Penetrating
Iatrogenic – Catheter and pacemaker perforations, cardiopulmonary resuscitation, post-thoracic surgery
<b>Metabolic</b>
Hypothyroidism – Primarily pericardial effusion
Uremia
Ovarian hyperstimulation syndrome
<b>Radiation</b>
<b>Drugs (rare)</b>
Procainamide, isoniazid, or hydralazine as part of drug-induced lupus
Other – Cromolyn sodium, dantrolene, methysergide, anticoagulants, thrombolytics, phenytoin, penicillin, phenylbutazone, doxorubicin

**References:**

1. LeWinter M. *Clinical practice. Acute pericarditis.* *N Engl J Med* 2014; 371:2410.
2. Imazio M, Gaita F. *Diagnosis and treatment of pericarditis.* *Heart* 2015; 101:1159.
3. Imazio M. *Contemporary management of pericardial diseases.* *Curr Opin Cardiol* 2012; 27:308.

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