

Myocarditis

Inflammatory disease of the cardiac muscle

Usually manifests in healthy person and can result in rapid progressive heart failure and arrhythmia (often fetal).

Epidemiology:

- 1) no racial predilection exists (can happen in all populations)
- 2) males = females in humans
- 3) median age = 42 years
- 4) more susceptible to myocarditis are : newborns, infants, immunocompromised patients

Etiology:

- 1) Coxsackie B virus is the most common cause of myocarditis which is a member of picornavirus family & enterovirus genus
- 2) adenovirus type 2 & 5

Other causes include : autoimmune disorders, exogenous agents with genetic & environmental predisposition

Enteroviruses :

Picornaviruses that are extremely small RNA viruses, naked capsid with icosahedral symmetry

Coxsackieviruses type A (4, 16) & type B (1,2,3,4,5) cause myocarditis

Not commonly cause GI diseases

Transmission:

Humans are the major natural host for coxsackieviruses

Person-to-person

Feco oral transmission

Clinical presentation :

Mild form 🙅 a symptomatic

Severe cases 🙅 acute cardiac decomposition and may progress to death

Pathogenesis :

- 1) direct viral induced myocyte damage
 - 2) post viral immune inflammatory reaction
- Contributes to myocyte damage and necrosis

Viruses only replicate in the heart for almost 2 or 3 weeks after infection

Evidence from experimental models has incriminated cytokines such as interleukin-1 and TNF, oxygen free radicals and microvascular changes as contributory pathogenic factors

Prognosis:

Most patients with acute myocarditis and mild cardiac involvement recover without long-term sequelae

Patients with severe hemodynamic collapse at presentation actually have a good prognosis.

- 93% transplant-free survival in 11 years

30% of those with chronic myocarditis may recover

Other viral causes of myocarditis include :

Cytomegalovirus

- Echovirus
- Epstein-Barr virus
- Hepatitis C virus
- Herpes Simplex virus
- Human immunodeficiency virus
- Influenza and parainfluenza viruses
- Measles virus
- Mumps, associated with endocardial fibroelastosis (EFE)
- Parvovirus B19
- Poliomyelitis virus
- Rubella virus
- Varicella -Zoster virus

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