

## Giant Cell Myocarditis : An Autopsy Case

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**Abstract:** We present an autopsy case of 45years, male died with history of chest pain. All organs were sent for histopathological examination at SMIMER hospital, Surat. In the heart we could see microscopic features of giant cell myocarditis. Giant cell myocarditis (GCM) is a rare condition with paucity of data, particularly on diagnosis, prognosis and morphological correlation.<sup>(1)</sup> An endomyocardial biopsy is a must for the diagnosis of idiopathic giant cell myocarditis in young patient with chest pain and arrhythmia who do not respond to treatment.

**Keywords:** Giant cell, Heart , Autopsy.

### Introduction:

Giant cell myocarditis (GCM) is a rare condition with paucity of data, particularly on diagnosis, prognosis and morphological correlation.<sup>(1)</sup> It is a rare, morphologically distinct form of myocarditis with a very fulminant and fatal course.<sup>(1-2)</sup> It often affects the young or middle aged healthy adults and it is clinically characterized by rapid downhill course resulting in death which is usually diagnosed at autopsy. Etiology of GCM is unknown till date. However, in some patients there is an association with autoimmune disease like myasthenia gravis, systemic lupus erythematosus, rheumatic disease, thyroiditis, pernicious anemia and ulcerative colitis either through the production of toxins or by immunologically mediated destruction.<sup>(3)</sup> Sarcoidosis also should be ruled out before labeling it as idiopathic giant cell myocarditis.

### Case Report:

A 45 year old male was admitted to private hospital with complains of chest pain, breathlessness and after few hours patient expired and postmortem was performed.

### Discussion:

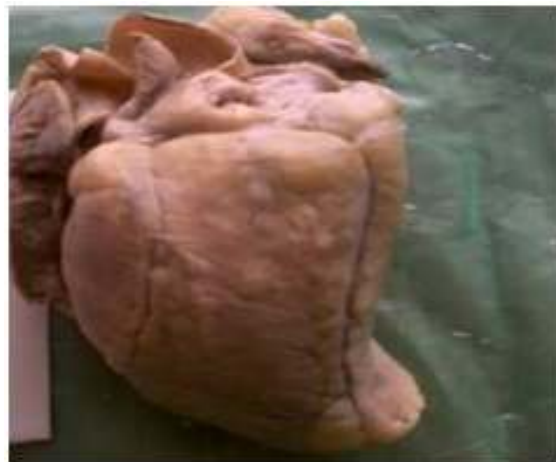
Idiopathic giant cell myocarditis (GCM) is a rare and often fatal cardiovascular disease.<sup>(4)</sup> It usually leads to sudden cardiac death. Sudden cardiac death is defined as an unexpected death which results from cardiac causes in individuals without heart diseases or with an early after symptom onset, usually within 1 hour.<sup>(5)</sup> It is a rare clinicopathological entity which is usually known to cause death in more than half of the cases of sudden cardiac death.<sup>(6)</sup> Characteristic giant cells observed in GCM may originate from degenerating myocardial cells and myocardial interstitial histiocytes. Their origin is still somewhat controversial.<sup>(1-3)</sup>

Initial presentation can be one of the rapidly progressive heart failure, ventricular arrhythmia, heart block, and / or symptoms mimicking acute coronary syndrome as seen in this case. Pathology remains the cornerstone of the diagnosis.<sup>(4)</sup>

### Gross Examination:

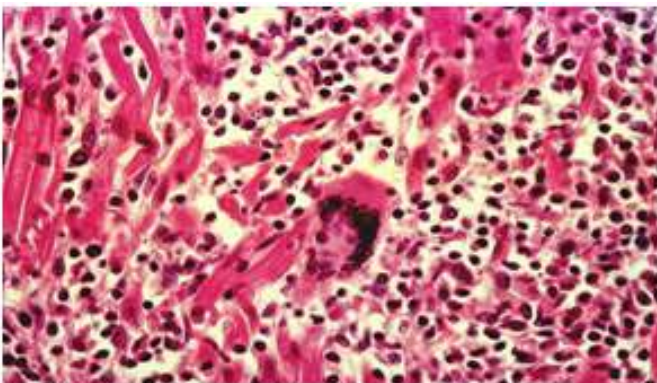
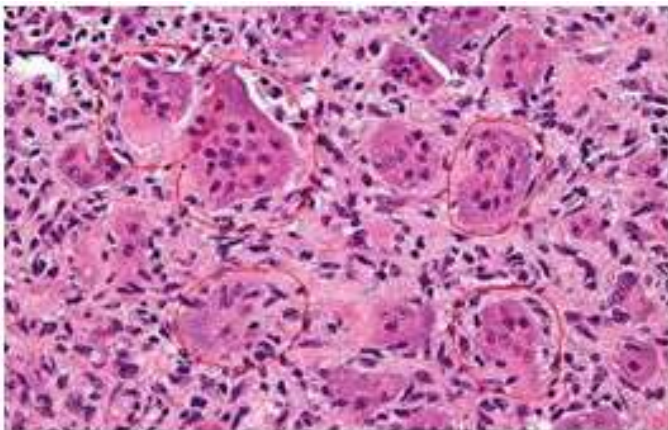
- Heart weighed 360 gm
- Left ventricular wall thickness 1.9cm
- Gray white patches on the anterior wall of left ventricle.
- All other organs were unremarkable.

Histopathological examination: of autopsy section shows diffuse inflammatory infiltrate which consisted of giant cell which interspersed with lymphocytes, plasma cells, neutrophils and occasional macrophage and extensive myocyte necrosis.





**Photograph 1: Gross examination**



**Photomicrograph: Figure 2: 40X [H&E]**

**Conclusion:**

In case of sudden death in young individuals, a careful search for histologic evidence of idiopathic giant cell myocarditis is essential, after ruling out acute myocardial infarction. An endomyocardial biopsy is a must for the diagnosis of idiopathic giant cell myocarditis in young patient with chest pain and arrhythmia who do not respond

to treatment.

**References:**

1. Cooper LT Jr.GCM. In: *NORD Guide to Rare Disorders*. Philadelphia, PA: Lippincott Williams & Wikins;2003:52-3.
2. Wilson MS, Earth RF, Baker PB, et al. giant cell myocarditis. *AMJ Med* 1985;79:647-9.
3. Litovsky SH, burke AP, Virmani R. giant cell myocarditis: an entity distinct from sarcoidosis characterized by multiphasic myocyte destruction by cytotoxic T cells and histiocytic giant cells. *Mod Pathol* 1996; 9: 1126-34.
4. Cooper LT.ect "idiopathic giant cell myocarditis-national history and treatment.Multicenter giant cell myocarditis Sutyd group investigators".*New England journal of medicine*.1997;336:1860-1866.
5. Schoen FJ. The heart. In :Chapter 12, robbins and cotran pathologic basis of disease, 8th Elsevier Pennsylvania 2010; 555 - 618.
6. Konapur PG, Daded AV, Udaykumar M. Idiopathic giant cell myocarditis: A case report and review of the literature. *Indian Journal of Pathology and Microbiology*. 2003; 36:241-43.

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