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Case Report

PLASMA CELL MYOCARDITIS- AN UNRECOGNIZED ENTITY OUT IN THE OPEN ON AN AUTOPSY

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ABSTRACT
Myocarditis is an inflammatory disease of the myocardium with or without known cause. It may be constituted by an infiltrate that is monomorphic or is mixed with a predominance of one cell type or other. Plasma cell myocarditis is a very rare clinicopathologic entity. Available data on this histological type is limited. We hereby report a rare autopsy case of plasma cell myocarditis in 46 years old male who died of sudden cardiac failure. This case is being presented for its extreme of rarity.

Keywords: *Plasma cell, Autopsy, Myocarditis*

INTRODUCTION
Myocarditis is a rare disease; the exact incidence of myocarditis is unknown. However, in series of routine autopsies, 1–9% of all patients had evidence of myocardial inflammation. According to work done by Feldman *et al*., (2000), in young adults, up to 20% of all cases of sudden death are due to myocarditis. This may occur as an isolated disorder or be the dominating feature of a systemic disease. Myocardial biopsies done in the past have revealed variable degrees of histiocytic, eosinophilic, lymphocytic, or occasionally granulomatous infiltration of the interstitium. Plasma cell infiltrate can be seen in association with chronic inflammatory infiltrate as mentioned by Chow *et al*., (1989). But isolated plasma cell myocarditis is very uncommon.

CASE
An autopsy was conducted on 46 years male who died suddenly without any prior history of illness. The viscera (heart, spleen, kidneys, lungs and liver) were sent for histopathological examination to ascertain the cause of death. On gross examination the heart weighed 500 gms and thickness of the left ventricular wall was 1.5 cms and thickness of right ventricular wall was 0.4 cms. The lumen of left coronary was partially narrowed and vessel walls of both right and left coronaries were thickened. The ventricular walls, papillary muscles, chordiae tendinae, atria and valves were normal. However wall of aorta showed

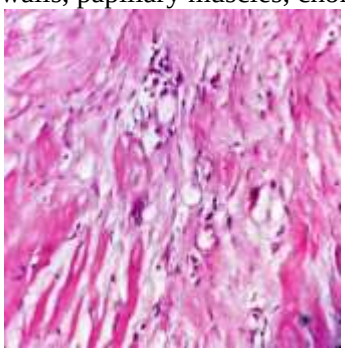

Figure 1: Hematoxylin & Eosin stained (100X) section from myocardium shows focal fibrosis with interstitial plasma cells infiltrate

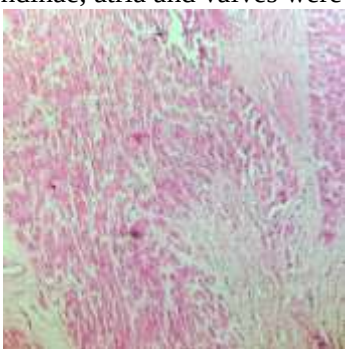

Figure 2: Hematoxylin & Eosin stained (10X) section from myocardium shows focal fibrosis

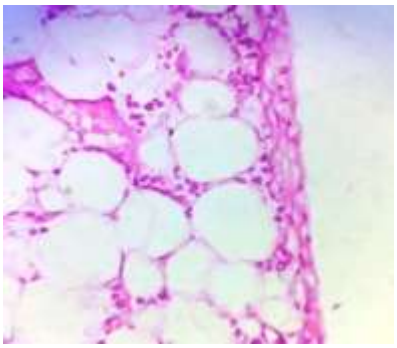

Figure 3: Hematoxylin & Eosin stained section (40X) shows plasma cells infiltrate in pericardial adipose tissue

plaque formation. Histopathological examination from myocardium revealed focal areas of fibrosis, interstitial myocardial [Figure 1, Figure 2] as well as pericardial infiltration of plasma cells predominantly along with few lymphocytes [Figure 3].
Histopathological sections examined from right coronary artery showed atherosclerosis Type 3 and left coronary artery showed Type 5 atherosclerosis. Rest of the organs was normal grossly as well as microscopically.

DISCUSSION

Myocarditis is an inflammatory disease of heart and is the end result of infection or autoimmmunity. Its definition has rested primarily in histopathological criteria of Dallas, established and published in 1987. Aretz *et al*., (1987) and Wu *et al*., (2001) had emphasized that despite its considerable limitations, this criterion has yielded diagnostic information in 10% to 20% of cases. Chow *et al*., (1989) had mentioned that in general the histologic patterns in myocarditis can be divided into lymphocytic (including viral and autoimmune forms), eosinophilic (in which hypersensitivity myocarditis is the most common, followed by cases of hypereosinophilic syndrome, granulomatous (sarcoid and giant cell myocarditis), neutrophilic (bacterial , fungal , and early forms of viral myocarditis) and reperfusion type / contraction band necrosis (present in catecholamine induced injury and reperfusion injury). In a retrospective study conducted on 112 cases of biopsy-confirmed myocarditis, lymphocytic type of myocarditits was found to be more common (55%). Magnani *et al*., (2006) had mentioned that in rest of the cases borderline type was 22% followed by granulomatous (10%), giant cell (6%), and eosinophilic (6%) type of histologic patterns.
On the other hand, unpredictably the degree of any type of myocardial inflammation or necrosis and the likelihood of arrhythmias or hemodynamic collapse has poor correlation between each other. This may be one of the reasons that endomyocardial biopsy is less likely preferred technique in cardiovascular diseases. But Burke *et al*., (1991) and Ansari *et al*., (2003) had mentioned that eosinophilic necrotizing myocarditis may represent an extreme form of hypersensitivity myocarditis that rapidly results in cardiovascular deterioration. However very limited data is available on isolated plasma cell myocarditis in the literature, so as shown by Tan (1972) the assessment of outcome of the disease is difficult. The present case report favors that in the field of cardiovascular disorders, plasma cell myocaditis is an under-recognized condition. Keeping in view the extreme of rarity this case is being presented to add a little awareness about unusual histopathological variant or type of myocarditis. However, a lot of work is required to understand or explore the depth of disease.

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