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Authored by

Mohamad H. Yamani

Department of Cardiovascular Medicine,

Jacksonville, Florida,

USA

Published Date
October 30, 2019

Published in the Journal of

Clinical Cardiology and Cardiovascular Interventions

Auctores Publishing, LLC

16192 Coastal Highway

Lewes, DE 19958,

USA

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Journal of Clinical Cardiology and Cardiovascular Interventions
Mohamad H Yamani

Open Access

Case Reports

Eosinophilic Myo-Pericarditis Presenting as Cardiac Tamponade

Salman Farhat MD[1]*, Mathew T Olson MD[2], Mohamad H Yamani MD[1]
[1]Department of Cardiovascular Medicine, Jacksonville, Florida, USA.
[2]Department of Pathology Mayo Clinic, Jacksonville, FL, USA.

***Corresponding author:** Mohamad H Yamani, Department of Cardiovascular Medicine, **E-mail:** Yamani.mohamad@mayo.edu

Received date: October 22, 2019; Accepted date: October 26, 2019; Published date: October 31, 2019

Citation: Farhat S., Mathew TO., Yamani MH., **(2019)** Eosinophilic Myo-Pericarditis Presenting as Cardiac Tamponade. J Clinical Cardiology and Cardiovascular Interventions, 2(2); DOI:10.31579/ 2641-0419 /023

Background: Eosinophilic myocarditis is a rare and acute life threatening condition often associated with drug reactions, eosinophilic granulomatous polyangiitis (formerly Churg-Strauss syndrome), Loeffler endomyocardial disease, parasite infections, and idiopathic hypereosinophilic syndrome. We describe a case of eosinophilic granulomatous polyangiitis presenting as progressive pericardial effusion and cardiac tamponade.

Case: A 23 year old male with history of occupational dust exposure to polycaprolactone and hydroxyapatite (working in a 3D printing laboratory), presented with progressive sinus congestion, exertional dyspnea, and wheezing. He was noted to have nasal polyps and pulmonary infiltrates. His symptoms improved with systemic corticosteroids but rebounded on tapering corticosteroid dose. Bronchoscopy specimens of lung tissue revealed eosinophilia with necrotic debris. Subsequent clinical course was significant for the development of chest pain, worsening dyspnea and hemodynamic collapse. Serum troponin levels were found to be significantly elevated and transthoracic echocardiography confirmed large pericardial effusion with signs of tamponade physiology. Urgent pericardial window procedure was performed. Pericardial biopsy revealed fibrinoid necrosis with obliteration of the normal vessel layers and infiltration of degranulated eosinophils and neutrophils (Figure).

Figure Legends

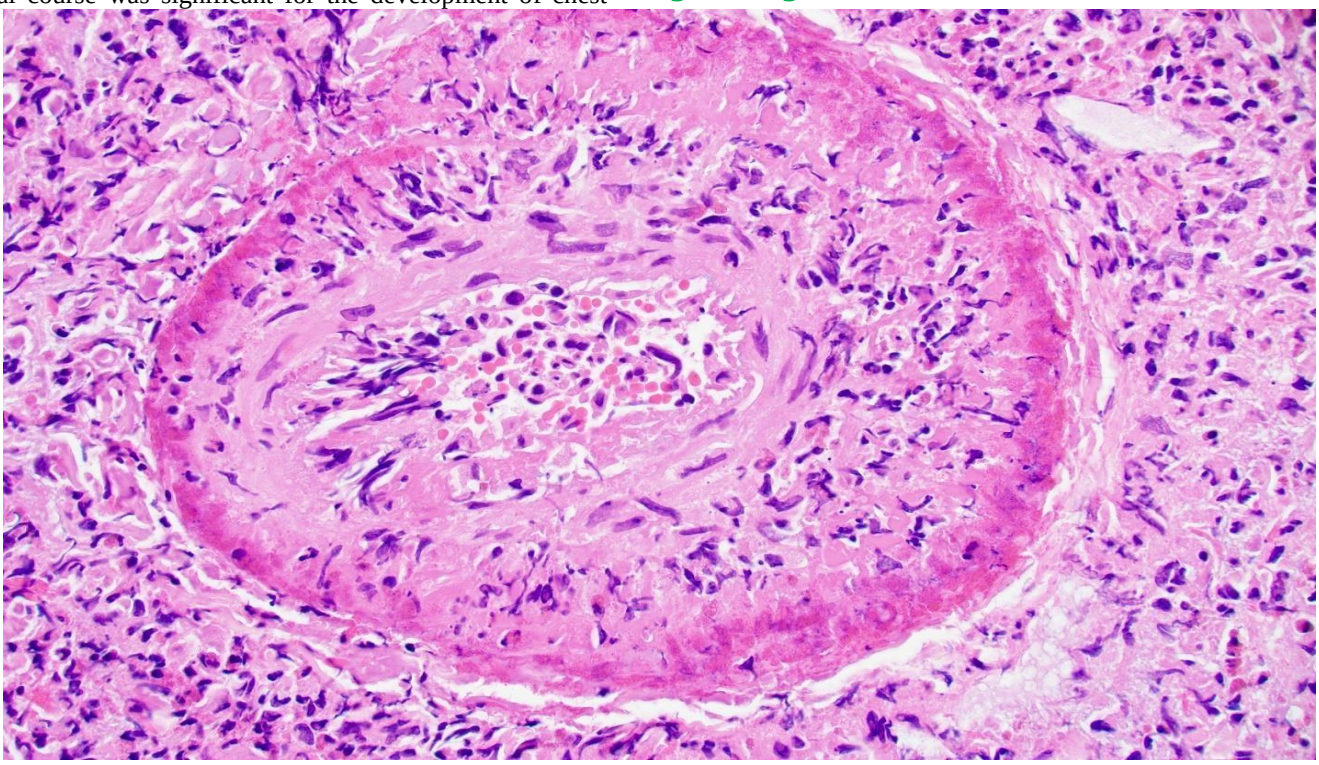

Figure: The pericardium shows extensive diffuse eosinophilia as well as a vasculitis with circumferential fibrinoid necrosis on the periphery of the vascular wall. The fibrinoid necrosis shows obliteration of the normal vessel layers and infiltration of degranulated eosinophils and neutrophils.

Decision-making: Patient was diagnosed with eosinophilic granulomatosis with polyangiitis based on clinical criteria (sinus, pulmonary and cardiac involvement) and histological evidence of serositis in the form of eosinophilic pericarditis with fibrinoid necrosis. He was treated with anti-interleukin-5 (IL-5) antibody, benralizumab, with drastic improvement in symptoms and inflammatory markers.

Conclusion: Cardiac involvement of eosinophilic granulomatous polyangiitis can potentially result in cardiac tamponade. Early recognition of this life threatening condition is imperative. Prompt echocardiography can help in timely diagnosis. IL-5 inhibition is an effective treatment strategy.

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