Reviewer’s report

Title: Eosinophilic Granulomatosis with Polyangiitis: Myocardial Thickening Reversed by Corticosteroids

Version: 0 Date: 01 Nov 2017

Reviewer: Sabine Pankuweit

Reviewer's report:

The author reports a case of rapid and marked thickening of the myocardium which is not frequently reported but may occur in EGPA. Myocardial thickening in the patient reported is caused by EGPA and the authors concluded that it can be quickly reversed by corticosteroids, as it is most likely caused by edema.

The case report is important and informative for the readers of BMC Cardiovascular Disorders, as eosinophilic granulomatosis with polyangiitis is not so easy to diagnose, needs suspicion by the physicians and some diagnostic investigations not routinely done. For that reason an important case to demonstrate.

Therapy in this patient with corticosteroids was initiated before an MRI (after 4 days of treatment) was performed, and before EMB was performed (after 6 days of treatment). MRI revealed fibrosis but no edema or regional hypokinesia and EMB showed myocyte necrosis but no signs of active inflammation.

As this may be due to the time management with biopsy and MRI after 1 day of high dose treatment and 3 respectively 5 days of normal dose corticosteroids, I am not convinced, that hypertrophy is caused by edema solely. I think, at the initial stage the was intracardiac Inflammation caused by infiltrating eosiniphils, which decreased in the periphery over the time.

In contrast a nasal mucosal biopsy demonstrated necrosis with inflammatory infiltrates of plasma cells and high numbers of eosinophils, which were the reason to add cyclophophamide to the therapy, which as the end was highly sufficient.

It would be helpful to include something like a time axis to show, what was done with regard to treatment and finding of the diagnosis at what timepoint. In addition, authors should discuss the MRI and biopsy findings under this point of view. The should include the position statement information of the ESC with regard to myocarditis (2013) and myocardial involvement in systemic immune-mediated diseases (2017) finish with a clear statement, how to optimal proceed ion patients with suspected EGPA.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Unable to assess

Are the conclusions drawn adequately supported by the data shown?
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Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
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Not relevant to this manuscript

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