Reviewer's report

Title: Lower respiratory tract infection and rapid expansion of an abdominal aortic aneurysm: A case report

Version: 2 Date: 8 March 2010

Reviewer: Weesam Alkhatib

Which of the following best describes what type of case report this is?: Unexpected or unusual presentations of a disease

Has the case been reported coherently?: Yes

Is the case report authentic?: Yes

Is the case report ethical?: Yes

Is there any missing information that you think must be added before publication?: Yes

Is this case worth reporting?: Yes

Is the case report persuasive?: No

Does the case report have explanatory value?: Yes

Does the case report have diagnostic value?: No

Will the case report make a difference to clinical practice?: Yes

Is the anonymity of the patient protected?: Yes

Comments to authors:

The authors here report on an interesting case where a patient with a known aneurysm developed pulmonary sepsis and an apparent increase in the size of the aneurysm. This led to an urgent endovascular repair without complications.

There are many questions that are left unanswered in this case report. The authors report that the patient presented with back and epigastric pain with a known abdominal aortic aneurysm. This suggests a symptomatic aneurysm that should have been treated urgently upon presentation. Symptomatic aneurysms have a high risk of aneurysm sac expansion and rupture which could explain the sudden expansion of the aortic aneurysm with the subsequent retroperitoneal inflammation seen on CT scan. If one assumes that the patient was symptomatic upon presentation, then this would explain the reason for the rapid expansion...
and rupture of the aneurysm. This possibility was not addressed in the case report.

A second omission was that even if we presumed that the patient did not present with a symptomatic aneurysm, could the rapid expansion of the aneurysm sac have been a consequence of a mycotic aneurysm? Although sepsis increases inflammatory mediators systemically, it is more likely that the patient possibly had a rupturing mycotic aneurysm which was seeded from the systemic bacteremia. It is not uncommon to see rapid expansion of a known aneurysm sac in patients with systemic infections verified by retroperitoneal inflammation on CT scan. The authors omitted this possibility from their discussion and assumed that the sepsis caused an upregulation in inflammatory mediators of the aortic wall which led to rapid expansion. The authors need to explore the possibility of a mycotic aneurysm in the discussion of the case report.

The patient follow time was also not addressed in the discussion. If we assume that the patient had a mycotic aneurysm, patient follow up is of up most importance since the use of EVAR to treat mycotic aneurysms is still controversial. If we do assume that expansion was due to aortic wall inflammatory mediator upregulation or an impending rupture, follow up is still very important as it will help determine the treatment of septic patients with symptomatic aortic aneurysms.

This report does bring up the difficult situation of how to treat septic patients with rupturing aneurysms. However, before submission for publications, the discussion needs to be more complete and needs to consider alternative presentations and treatment methods for this patient. In addition to the above suggestions, other factors need to be considered. For instance, could this patient have undergone an open operation? What did the aneurysm neck look like on initial CT presentation? What type of follow up is needed?

**Quality of written English:** Acceptable

**Declaration of competing interests:**

I declare that I have no competing interests