Author’s response to reviews

Title: Delayed diagnosis of right-sided valve endocarditis causing recurrent pulmonary abscesses: a case report

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Author’s response to reviews:

Thank you for your feedback. We have updated the manuscript to address the issues raised.

Reviewer 1:

Please describe further (with references) if low oxygen tension, valvular structural/collagen/any tissue histology difference that may make a specific valve susceptible/vulnerable/prone to acute or subacute infective endocarditis.

- It is postulated that right sided IE is less common due to fewer valvular abnormalities. The left side of the heart has higher haemodynamic pressures and more congenital abnormalities that result in greater endothelial disruption with increased platelet and fibrin deposition, serving as a nidus for pathogen adhesion. It is unclear what pre-disposes completely normal valves to IE aside from pathogens’ virulence factors that are thought to play a role in establishing infection.

What are the respiratory symptoms Recurrent respiratory symptoms

- Breathlessness on exertion

What are the other factors which determine vegetation embolization?

- Systemic embolization is more common with right-sided IE. In a large prospective study, the majority (53%) of right-sided IE patients had systemic emboli at presentation compared with 34% of those with mitral and aortic valve IE.
- Despite treatment, vegetations over 10 mm embolise in 14% of cases versus 1% in vegetations under 10 mm.(8)

Conclusion this case demonstrates that these are not always useful investigations and instead imaging of the chest may be more appropriate,, that is not a correct statement, echo is always compulsory for diagnosis and follow up of IE. Conclusion needs to be re written.

- The limitations in relying solely on inflammatory markers and echocardiography to survey treatment response

Occurance /incidence rate ( with reference ) of right sided IE causing systemic symptoms / embolization / recurrent embolization.

- Systemic embolization is more common with right-sided IE. In a large prospective study, the majority (53%) of right-sided IE patients had systemic emboli at presentation compared with 34% of those with mitral and aortic valve IE.

- Despite treatment, vegetations over 10 mm embolise in 14% of cases versus 1% in vegetations under 10 mm.(8)

Which oral antibiotic , dose and duration?

- He had taken several courses of oral including amoxicillin for 10 days and doxycycline for 2 weeks for presumed pneumonia.

Repeat CT chest after how many days of antibiotic treatment?

- 10 days of amoxicillin and 2 weeks of doxycycline

Vital sign symptoms : notable BP ? What BP ? any pressors needed ?

On arrival to the emergency department, he felt washed out, with vital signs that were notable for low-grade fever of 38.3°C, sinus tachycardia to 130 beats per minute and fluid-responsive hypotension (82/45mmHg),

Susceptible MIC < 0.5 , which ABX sensitive to?

- Penicillin MIC

Why a FU CT scan chest done ? Any clinical symptoms or to see resolution?

- Due to ongoing cough for first repeat CT scan. The repeat CT scan after endocarditis diagnosed was to check resolution.

F/U CT " any change in peripheral opacities.

- No change in size
how long back first ABX started, 6 months back? when a repeat CT scan chest by resp specialist, after how long of abx treatment

- He had had an outpatient chest computed tomography (CT) two months earlier that showed consolidation in the left lower lobe and a peripheral opacity in the right lung base measuring 14 mm by 12 mm. He had taken several courses of oral including amoxicillin for 10 days and doxycycline for 2 weeks for presumed pneumonia. Due to ongoing cough, he had a repeat CT scan one month later that showed resolution of the consolidation but no change in the peripheral opacity. His GP had then referred him to a respiratory specialist who felt that his illness was in keeping with a pneumonia that was now resolving. He advised withholding fosinopril, cessation of antibiotics, repeat CT scan in 3 months and follow up in 3 weeks. Prior to this appointment, he had a syncopal episode that lead to this presentation.

Reviewer 3:

Authors do not elaborate on the presenting symptoms, type, duration & severity of fever and nature of the diaphoresis if it was nocturnal etc

- He had had intermittent fevers, 15 kg weight-loss, general malaise, regular diaphoresis that occurred both day and night, nausea, vomiting, diarrhoea and a non-productive cough with sporadic morning haemoptysis. His exercise tolerance had reduced from unlimited walking capacity to breathlessness after roughly 2 kilometres

Authors need to clarify regarding the use of Prednisone by the patient

- For a recent gout exacerbation

Can the authors comment as to why the patient did not have any TEE at the 2m follow up when there was evidence of seeding and empiric antibiotic treatment commenced given high index of suspicion of relapsed IE

- Patient had repeat TTE. TTE showed a reduction in the pulmonary valve vegetation to 29 x 9 mm

Did the patient have any test or imaging to make sure there were no other distal septic embolization

- No, given that this was a right sided lesion, only the lungs were ever imaged