Author’s response to reviews

Title: The novel use of oral antibiotic monotherapy in prosthetic valve endocarditis caused by Finegoldia magna: a case study

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1) Needs rationalisation with the findings of the POET trial:
The POET trial showed that in patients with endocarditis on the left side of the heart who were in a stable clinical condition, changing to oral antibiotic monotherapy was non-inferior to continuing intravenous antibiotic treatment. We have utilised the principles of the POET trial and applied these to our patient, who made a good clinical recovery with oral antibiotic monotherapy. Like in the POET trial, we had a patient who was clinically stable with a normal GI tract making him an ideal candidate for IV to oral switch. However, our case differs from the POET trial in several ways. The POET trial highlighted that these principles could be applied to Streptococcus, Enterococcus faecalis, Staphylococcus aureus and coagulase-negative Staphylococci – we have shown that these principles could also be applied to anaerobic pathogens (lines 176-187). In addition, we have differed from the POET trial in utilising only one antibiotic agent (lines 189-201). This highlights that, although we have used the findings of the POET trial, these were only used as a rough tool to guide our management, so we cannot completely compare our case directly to the findings of the POET trial.

2) Relying on the POET trial alone:
The POET trial does discuss that there is previous evidence in the form of small observational studies to suggest that partial oral treatment has an acceptable cure rate in selected cases of endocarditis on the right side of the heart, however literature on oral treatment for endocarditis on the left side of the heart (as in this patient) remains sparse. There was only one further small study (12 patients) that reported that shifting to oral treatment in left sided endocarditis was efficient and safe. Therefore, the POET trial is the most substantial research we could have utilised in the management of this case and this further
highlights the new and exciting developments in the management of IE.

3) The POET trial did not include a single case of IE caused by Finegoldia magna:
As discussed, Finegoldia magna is a very rare pathogen in infective endocarditis, with only 8 previously reported cases, all of which were outwith the timing of the POET trial. In addition the POET trial itself does highlight that it only includes patients with Streptococcus, E. faecalis, S aureus and coagulase-negative staphylococci in the trial. We have therefore proven that the findings of the POET trial can be extrapolated and applied to patients with anaerobic infective endocarditis, although we acknowledge that further research is required to support this. This was included in the original manuscript, found on p12 (Lines 176-187).

4) Combining metronidazole and clindamycin:
We have included an additional paragraph in the report detailing why clindamycin was not used in p11-12 (lines 169-174). Clindamycin is not commonly used to treat bacterial endocarditis in the UK, and is associated with C difficile infection. In addition, we are the first team to offer only antibiotic monotherapy, which is an exciting development to the findings of the antibiotic trial. This is further emphasised in p12-13 (lines 193-201).

5) Was the patient immunocompromised and were there risk factors for acquiring this unusual infection?
The patient was not immunocompromised and had no other risk factors for acquiring this unusual pathogen, as discussed on page 6 (lines 40-42).

6) Metronidazole was given for a long duration (62 days) and can be associated with side effects:
The POET trial does highlight that “recommendations for the duration of antibiotic therapy and for in-hospital intravenous administration in patients with endocarditis are based mainly on observational studies”. Therefore, the decision to continue oral antibiotics for 8 weeks from the date of surgery was purely subjective given this has never been done before. We discussed the potential for side effects with this antibiotic with the patient and our pharmacy and microbiology team at the time of treatment. The patient had no gastrointestinal issues in his past medical history, therefore we offered him worsening advice related to the side effects of prolonged metronidazole use. He reported no such side effects. This is referred to on page 7 of the manuscript (lines 70-71).

7) Serial blood cultures:
We have included further detail on p7 (lines 69-70) to report that serial cultures were indeed negative.

8) Picture of excised infected valve:
No picture of the excised infected valve was taken at the time of surgery.

9) Criteria of clinical stability of IE to allow shift to oral regimen:
The patient was clinically stable, with improving blood results and source control achieved through surgery. This prompted the decision to switch to oral antibiotics. Furthermore, the patient had received >10 days of IV antibiotics, as utilised in the POET trial. This is referred to on page 7 (lines 62-64).