Author's response to reviews

Title: Post-partum, post-sterilisation tubo-ovarian abscess caused by Fusobacterium necrophorum subsp. Funduliforme: a case report

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Author's response to reviews: see over
Dear Editor,

My name is Dr. Chenchit Chayachinda, M.D., a staff of Unit of Gynecologic Infectious Disease and Female Sexually Transmitted Diseases, Department of Obstetrics and Gynecology, Faculty of Medicine Siriraj Hospital, Bangkok, Thailand.

My peer-reviewed case report Post-partum, post-sterilisation tubo-ovarian abscess caused by *Fusobacterium necrophorum* subsp. *Funduliforme*, MS 6758672127081538, is now revised. Here are the replies of the comments from Reviewer 1 and Reviewer 2.

**Reply to reviewer 1**

1. What were the biochemical characteristics of the *F. necrophorum* subp. *funduliforme* and how were they determined? Was there an API anaerobe performed? If yes then the API anaerobe system’s numerical code must be provided.

Reply: Biochemical characteristics of this isolate (SIRD 333) were determined by using Vitek 2 system (ANC card). The result revealed 99% *Fusobacterium nucleatum* (excellent identification). However, Vitek 2 system has been found to be inaccurate for the identification of *F. necrophorum*. For example, Rennie RP, et al. (J Clin Microbiol 2009; 46/8: 2646-51.) reported only 71.4% correct identification of this species by Vitek 2 ANC card. They also found the isolate was identified as *F. nucleatum* by ANC card but it was *F. necrophorum* as identified by 16S rDNA sequencing.

2. How many 16S rDNA base pairs were sequenced? The authors must provide a GenBank accession number for their isolate.

Reply: DNA sequence of 658 base pairs of 16S rDNA was obtained. There was only one bp mismatch between SIRD 333 and *F. necrophorum* subp. *funduliforme* strain DSM 19678T from Germany (GenBank accession number AM905356) or strain Ulm 1 (GenBank accession number DQ440550). GenBank accession number of SIRD 333 (JX103157) has already provided in the text (line 74-76).

3. What was the susceptibility pattern of the *F. necrophorum* subp. *funduliforme*? Was it susceptible to clindamycin or gentamicin, what were the MIC’s and were they determined by E-test? For how long was the patient treated with antibiotics and was there follow up of the TOA, for example with echography?

Reply: The antimicrobial susceptibility of SIRD 333 was not determined. The treatment was based on the information that anaerobic bacteria are usually susceptible to metronidazole or clindamycin.
The patient was treated with the intravenous antibiotics (clindamycin and gentamicin) until being clinically stable for 48 hours (4 days of intravenous antibiotics in total). Then, oral antibiotics were continued until the completed 6 weeks. The patient was clinically fine, so no repeated echography (ultrasonography) had been done (line 80-84).

4. Was it a monoculture of *F. necrophorum* subp. *funduliforme* and on what media was it cultured?

Reply: Yes, it was pure culture of *F. necrophorum* subp. *funduliforme* on sheep blood agar.

5. The author reports: This species has been divided into two subspecies; *F. necrophorum* subsp. *funduliforme* and *F. necrophorum* subsp. *necrophorum*. The former subspecies is usually associated with human infection whereas the latter one causes infection in many animals [3]. This suggest that *F. necrophorum* subsp. *necrophorum* does not cause infections in humans but this is not true. *F. necrophorum* subsp. *necrophorum* is a recognized pathogen, for example in cases of Lemeirre syndrome or hepatic abscesses

Reply: Could we add “mostly” to that clause?

This species has been divided into two subspecies; *F. necrophorum* subsp. *funduliforme* and *F. necrophorum* subsp. *necrophorum*. The former subspecies is usually associated with human infection whereas the latter one mostly causes infection in many animals [3]. (line 104)

**Reply to reviewer 2**

**Comments to authors:**
Reviewing this Case report Post-partum, post sterilisation tubo-ovarian abscess caused by Fusobacterium necrophorum subsp. funduliforme
I found unclear :
- The first sentence (Abstract ...Case: "The patient..." stayed unclear when TOA developed :4 weeks after vaginal delivery, or 4 weeks after tubal sterilisation.
Reply: TOA developed 4 weeks after the vaginal delivery and the tubal sterilisation was performed one day after the vaginal delivery. The authors would add this information in both the abstract and the manuscript.

-When exactly was post partial tubal ligation done
Reply: One day after the vaginal delivery. The authors would add this information in both the abstract and the manuscript.

-Was patient controlled after tubal ligation
Reply: The procedure (tubal sterilisation) went well without any immediate complications. She was totally stable when being discharged from the hospital.

- How can the authors explain decrease of hematocrit (25.5%) and the presence
of 50 ml BLOODY purulent fluid
Reply: The authors would like to apologize for the wrong numbers in the previous manuscript. In fact, her hematocrit was 32.2% upon arrival. Apart from that, the authors would like to correct all other numbers in the same paragraph (line 47-52). The bloody purulent fluid was most likely from the very severe inflammation causing by the ruptured left TOA. The patient was mildly anemic owing to her under nutritional status.

-Could developed TOA be the consequence of both: incorrect hemostase after tubal ligation and the presence of Fusobacterium necrophorum subsp. funduliforme?
Reply: At Siriraj Hospital, where more than 5,000 tubal sterilisation procedures are performed annually using the modified Pomeroy’s technique, not a single case of re-exploratory laparotomy has been reported. In addition, the operator of this case had more than 100 tubal sterilisation experiences. In addition, the patient was thin, post-partum BMI being at 21.5 kg/m². The operation appeared to be very smooth. Hemostasis was routinely well checked before closing the abdominal wall. Therefore, the authors are quite confident that the incorrect hemostasis co-existing with the presence of the organism causing TOA should hardly be possible.

With Best Regards,

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