Author’s response to reviews

Title: A Potential Risk Factor of Total Knee Arthroplasty: An Infected Baker’s Cyst – A Case Report

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Author’s response to reviews:

Response letter

Thank you for your sincere review and the attention of my paper. We have done our best to correct the points you have indicated. And all authors checked the revised manuscript and agreed to re-submission.

Editor Comments:

Please use total knee arthroplasty and TKA as abbreviation

We changed ‘total knee replacement arthroplasty’ and ‘TKRA’ to ‘total knee arthroplasty’ and ‘TKA’ in manuscript.

Please explain if the first aspirations were performed with ultrasound assistance and if any complications were found after the procedures.

We changed the sentence like below.
Three months prior, a popliteal mass had become palpable, and the patient underwent needle mass aspiration (twice) in a local orthopedic hospital, but the mass recurred.

Three months prior, a popliteal mass had become palpable, and the patient underwent ultrasound assisted needle mass aspiration (twice) without steroid injection in a local orthopedic hospital. The aspiration was done after 10% povidone-iodine dressing and sterile drape in outpatient department. After the procedures, fluid analysis including cell counts and culture was not performed and the patient was not prescribed oral or intravenous antibiotics. The patient had no complication but the symptoms did not change significantly.

Did you send the cyst to histological evaluation?

Histological examination revealed acute and chronic nonspecific inflammation, granulation tissue formation and fibrin deposition

Please be less strong in your final comments. Your case is interesting and some cysts might be evaluated but for sure not all of them. Please include that cysts that were aspirated and remained symptomatic with altered blood tests should further evaluated, but not all of them.

Although generalization is impossible given that we describe only one case, patient evaluation prior to TKRA requires a detailed examination of any Baker’s cyst present, given the potential severity of complications if the cyst is infected.
Although generalization is impossible given that we describe only one case, patient evaluation prior to TKA requires a detailed examination of a Baker’s cyst that was aspirated and remained symptom with altered blood tests, given the potential severity of complications if the cyst is infected.

(Discussion and conclusion section, line 24-26, page 5)

Reviewer reports:

Jong-Hun Ji, M.D. Ph.D (Reviewer 1): No of manuscript: BMSD-D-19-01599

A Potential Risk Factor of Total Knee Replacement Arthroplasty: An Infected Baker's Cyst - A Case Report

This is an interesting paper, However, more detailed description of this patient should be described. Also, preoperative X-ray is not compatible with K-L grade 4 osteoarthritis. Several injection could be one of the causes of this infected baker's cyst. Also, intraoperative culture tests were negative. In the RA patient, these yellowish cyst was misdiagnosed as a infected bursa. We should be differentiated these differences between infected bursa and RA bursa. Also these should be mentioned in the manuscript.

Although there is a yellowish joint fluid in the knee joint of RA patient, the finding we found during the operation was definite pus discharge as shown in figure 4. If a yellowish fluid is senn during aspiration of knee joint, it is necessary to differentiate it from septic arthritis, but the apparent pus discharge is different. We think that mentioning it might be blurred the point of manuscript.

Page 2

Line 14-16: Word "ago" or "prior" is better suited than previously.

We changed word like that.
Previously

(abstract-case presentation section, line 8, page 2)

Page 3

Line 33-38: The etiology of infection in this Baker's cyst in this case seems to be these injections of the knee joint. It requires more detailed description. Whether the aspiration was done in outpatient or operation room. The modality of painting and extent of draping. Whether aspiration was followed by any steroid injection which might have predisposed this RA patient for infection. The progression/ deterioration or status quo of the symptoms after each aspiration. Whether any antibiotics after aspiration were prescribed or not.

We changed the sentence like below.

Three months prior, a popliteal mass had become palpable, and the patient underwent needle mass aspiration (twice) in a local orthopedic hospital, but the mass recurred.

☞ Three months prior, a popliteal mass had become palpable, and the patient underwent ultrasound assisted needle mass aspiration (twice) without steroid injection in a local orthopedic hospital. The aspiration was done after 10% povidone-iodine dressing and sterile drape in outpatient department. After the procedures, fluid analysis including cell counts and culture was not performed and the patient was not prescribed oral or intravenous antibiotics. The patient had no complication but the symptoms did not change significantly.

(Case presentation section, line 16-21, page 3)

Line 41-46: Detailed description of mass and local area examination like signs of redness, raised temperature needs to be mentioned. Also WBC, ESR, CRP were elevated according to the laboratory data. Follow up of these Datas should be needed.

We inserted below sentences in the manuscript.
Redness or focal heating was not observed around the mass and the patient had no general fever.

(Case presentation section, line 25, page 3)

On the first day after operation, CRP was recorded 9.62 mg/dL and decreased to 2.67 mg/dL at 2 weeks postoperatively. ESR had been recorded 120 mm/h continuously. Two months after the operation, the patient had no previous symptom of knee but CRP was increased to 4.07 mg/dL.

(Discussion and Conclusion section, line 25-27, page 4)

Line 50. On plain radiography, osteoarthritis of Kellgren-Lawrence grade 4 (Fig. 2) was confirmed.

However, X-ray showed more K-L garde 2 or 3 rather than K-L grade 4. You should change this sentence.

Kellgren–Lawrence grade 4
☞ Kellgren–Lawrence grade 3

(Case presentation section, line 1, page 4)

Page 4:

Line 39-42: What was the criteria for diagnosis of RA and why was it diagnosed postoperatively needs to be clarified.

We inserted below sentences in the manuscript.

During the evaluation of cause, rheumatoid arthritis was diagnosed with the 2010 American College of Rheumatology/European League Against Rheumatism classification criteria total score 7. But, even if the diagnosis of rheumatoid arthritis and planned TKA, we wound not have considered evaluation of Baker’s cyst infection.

(Discussion and Conclusion section, line 27(page4) – line 2(page5))
Wade Johnson (Reviewer 3): Good case report highlighting the importance of a thorough examination and workup prior to consideration total knee arthroplasty. As the authors conclude proceeding with replacement in this patient would have assuredly resulted in periprosthetic infection.

Abstract and body: Would recommend removing comments regarding patient's age being "comparatively young" for deferring the total knee arthroplasty. 65-70 years old has been previously reported by Kim et al in Rheumatology, as the peak age for total knee arthroplasty in women in South Korea, with women aged 60-65 being the second most frequent age range by a narrow margin. The other two stated reasons for not proceeding with arthroplasty would be enough to justify the clinical decision.

Background:

Would take out the the statement "If this patient had undergone TKRA, a periprosthetic infection would have been inevitable." from this section. This is most appropriate to put in the discussion/conclusion.
Case Report:

Would comment on if fluid studies including cell counts/cultures were done with either of the two prior cyst aspirations?

We inserted below sentences in the manuscript.

After the procedures, fluid analysis including cell counts and culture was not performed and the patient was not prescribed oral or intravenous antibiotics.

(Case presentation section, line 19-20, page 3)

Would move the statement regarding 3 months of failed conservative care starting in line 56 before the sentence starting "At admission..." on line 37.

We moved the sentence to the proper place.

(Case presentation section, line 21-22, page 3)

Did the patient receive pre-op antibiotics. Commenting on this would help to explain a potential reason intra-operative cultures were negative despite purulent drainage from cyst.

There was no evidence of infection before surgery, so we did not use antibiotics.

A brief mention of why cefazolin was chosen such as if common local bacterial susceptibilities played a role, would be beneficial.

We inserted below sentences in the manuscript.
The patient was postoperatively treated with a first-generation cephalosporin (Cefazolin) because that most common causative organism of Baker’s cyst infection is Staphylococcus aureus.

(Case presentation section, line 16-17, page4)