Author's response to reviews

Title: A case of a perforated obturator hernia with a femoral abscess repaired using the pectineus muscle

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Author's response to reviews: see over
Dr. Guangde Tu
Editor BMC Surgery

Dear Dr. Guangde

We are very grateful to you and the reviewers for your helpful comments on the original version of our manuscript and useful suggestions that have helped us to improve our paper considerably. As indicated in the responses that follow, we have addressed all the comments made by reviewers 1, 2, 3 and 4, and have taken their suggestions into account in the revised version.

Comments by reviewer 1

Major Compulsory Revisions (1-9)

1. Please describe the relationship between inguinal ligament, femoral artery, and the inguinal incision.

Response

In accordance with the reviewers suggestions, we added the following new sentence.

Revised; p 4 line 2

below inguinal ligament and on the inside of femoral artery
2. After the resection of pectineus muscle from pubis, should the muscle flap be fixed to somewhere? Since the other side of pectineus muscle is attached to femur, the resected muscle will shrink caudally, and the muscle may not sufficiently fill the abscess cavity.

**Response**

The flap of pectineus muscle was fixed to adductor longus muscle and we thought that the muscle filled the abscess cavity by fixing the muscle. We added the following new sentence.

Revised; p 4 line 4

fixed to adductor longus muscle

3. Furthermore, because the pectineus muscle is often located next to femoral abscess in case of perforated obturator hernia, there will be a concern that the resection of the muscle may not reduce the volume of abscess cavity but rather enlarge the defect. Was the procedure really needed?

**Response**

The femoral abscess formed the large defect, so we thought that the defect need to be filled the muscle and we assumed the pectineus muscle or gracilis muscle as the filling. The pectineus muscle was able to fillied in the same wound and the defect was sufficiently filled in this case, but we think that the other muscle needs to be used in the case that the defect is not sufficiently filled.

4. Can the postoperative CT be provided as additional figures? The intraoperative photograph provided in the report is not clear enough to explain the most important feature of the case report.

**Response**

Regretfully the postoperative CT was not performed. In accordance with the reviewers suggestions, Figure 2 do not concern with the most important feature of this case report, so we deleted it. We added the schema of the muscle flap as Figure 2.
5. The authors did not mention the repair of hernia orifice. It is acceptable to leave the hernial orifice in case of perforated obturator hernia with poor general condition, but still, authors should state why they left the hernia untreated.

Refilling of the abscess cavity with pectineus muscle is an optional treatment for femoral abscess, and it is not a treatment for obturator hernia repair

**Response**

We performed simple closure of the obturator foramen as the repair of hernia orifice, that is mentioned in p4 line 1.

We removed the following bold words.

**Revised; p 6 line 5**

we prevented the recurrence of the abscess and hernia by filling the cavity with pectineus muscle,

6. Pectineus muscle helps adduction and flexion of hip joint. Did the procedure influence the patient’s gait? Could the patient ambulate early after the operation? Was the procedure really worked well for the patient’s recovery?

**Response**

The patient suffered no walking impairment in this case, that is mentioned in p 6 line 7.

The activities of daily living (ADL) of the patient is very poor from preoperative and so she could not ambulate early after the operation. But we think that the patient had no remnant abscess and was removed the drain relatively soon after surgery by filling the cavity with pectineus muscle, that worked for the patient’s recovery better than the condition of having remnant abscess and drain.

7. Why did the patient have to stay in the hospital for more than 2 months despite the uneventful recovery after the surgery?
Response

The patient had to stay in the hospital long time for social factor because she was single life

8. The references are not accurate. In addition, the authors are only referring to English reports published from 1974 to 1999 which have become outdated. Authors should refer to the recent articles of obturator hernia which describe the current treatment strategies and improved outcomes.

Response

We added the following references.

Revised; p 7 line 19-20


We added the following new sentence.

Revised; p 4 line 17-20

There are a variety of operative approaches including the abdominal, inguinal, retropubic, transperitoneal and more recently, the laparoscopic approach. Simple closure of the hernia defect with interrupted sutures or placement of a synthetic mesh are the preferred method of herniorrhaphy as they are associated with the lowest complication rates[3,4].

9. Authors must correct the following references.

[4] Reference is incorrect. Perhaps they were referring to the following article, although it is written in Japanese, and is not indexed in PubMed.

Response
We corrected the above references.

[6] No title of the manuscript is written.

Response
We added the title.

Minor Essential Revisions (10)
10. Please check if the term “femoral” is properly used. (Page 3 lines 14,16; page 4 line 2; figure 1 legend.)

Response
We changed femoral to thigh.

Discretionary Revisions (11,12)
11. Background and Discussion starts with a sentence describing same information. It is redundant.

Response
In accordance with the reviewers suggestions, we removed the following sentence of Discussion.

An obturator hernia is a relatively rare condition that accounts for only 0.07% of all hernias; it is more commonly seen in women [1]. Preoperative diagnosis is often difficult, and because it is often diagnosed long after onset and occurs in many elderly patients, it has a relatively poor prognosis [2].

12. “Computed tomography (CT)” is written twice. (Page 3 line 15, page 4 lines 14-15)
Response

We removed Computed tomography of page 3 line 16 and page 4 lines 16.

Comments by reviewer 2

Comments

ad.: key word suggest that in the first place, obturator hemia, perforated, femoral abscess, pectineus

Response

In accordance with the reviewers suggestions, we revised as he above.

Comments by reviewer 3

Major

Case presentation

1 How was she ADL before? How long was she suffered? Please describe in detail.

Response

We added the following new sentence

Revised; p 4 line 7-9

The patient was reliant before, but she had become bedridden person since just before emergency surgery to about two weeks after surgery. After that she underwent rehabilitation and was gradually ambulatory one month after surgery. She recovered uneventfully and was discharged on
postoperative day 63.

2 How about the WBC count, level of CRP and temperature? Could you tell us the vital signs?

Response

We corrected the following new sentence about the WBC count, level of CRP and temperature.

Revised; p 3 line 15

The white blood cell count was 13,060/ml, the level of C-reactive protein was 11.5mg/dl and temperature was 38°C.

The patients vital sign was stable, that is mentioned in p3 line 13.

3 I wonder why her hospital stay was so long instead of uneventful recover.

Response

The patient had to stay in the hospital long time for social factor because she was single life.

Discussion

4 Why the heads of the Background and Discussion are same sentence?

Response

We removed the following sentence of Discussion.
An obturator hernia is a relatively rare condition that accounts for only 0.07% of all hernias; it is more commonly seen in women [1]. Preoperative diagnosis is often difficult, and because it is often diagnosed long after onset and occurs in many elderly patients, it has a relatively poor prognosis [2].

5 You reviewed only Japanese cases. The manuscript should be presented for the world physicians.

Response

We reviewed only Japanese cases because the manuscripts of case of an obturator hernia with abscess were not recently presented for world physicians.

6 Treatment of an obturator hernia with abscess. In this paragraph, two and single stage surgery were discussed. I think the paragraph is little bit long and vague. You would better make concise and clear the paragraph.

Response

In accordance with the reviewers suggestions, we removed the following sentence.

Revised; p 5 line 15-
However, in the case of two-stage surgery, the incarcerated section of the intestine was reduced, which leads to peritonitis and the need for emergency intestinal resection. For this reason, a single-stage surgery should be performed whenever possible.

7 Meaning of Figure 3 could be obscured. I want to know how to make the muscle flap. Could you show us your methods in a figure or add a scheme?

Response
We added the schema of the muscle flap as Figure 2.

Conclusion

8 Was your case a delayed diagnosis? We don't have any information about it in the Case presentation.

Response

The patient saw her family doctor, but he had diagnosed her illness as mere appetite loss. Therefore she delayed to saw our hospital and be diagnosed as obturator hernia.

We added the following new sentence

Revised; p 3 line 12-13
She saw her family doctor since three weeks ago, but she had been diagnosed her illness as mere appetite loss.

9 I don't think using "etc." is suitable in the paper.

Response

We removed "etc." (p 6 line 14)

Comments by reviewer 4

Comment

A rare presentation of an obturator hernia. A key learning point from this paper is the need for imaging such as CT scan in elderly patients presenting with an abscess in the femoral region so as not
to miss a complicated femoral or an obturator hernia. The morbidity and mortality of a missed diagnosis is high.

The routine use of muscle flaps for filling of abscess cavities is debatable but is a useful option to consider in some patients. Was the pectineus muscle also used for closure of the hernia? If so how was this used?

Response

The pectineus muscle does not used for closure of the hernia. Refilling of the abscess cavity with pectineus muscle is an optional treatment for femoral abscess, and it is not a treatment for obturator hernia repair

Minor correction

Needs correction of language especially of the abstract.

Response

We changed femoral to thigh. (Revised; p 2 line 6)

We changed the following new sentence in Conclusion.

Revised; p 2 line 11-13

A 71-year-old Japanese female tested positive for fecal occult blood. Colonoscopy revealed a type 1 protruding lesion, measuring 33 mm, in the ascending colon. Biopsy specimens from the tumor demonstrated well-differentiated adenocarcinoma, which was diagnosed as ascending colon cancer.
We apologize for the delay in revising the manuscript. We hope that this revised version is now suitable for publication in BMC Surgery and we look forward to hearing from you at your earliest convenience.

Sincerely yours,

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