Author's response to reviews

Title: Combined Transcatheter Managements of a Huge Spontaneous Iliac Pseudoaneurysm Presenting Fever of Unknown Origin Sorely: A Case Report

Authors:

Shuang Li (lishuang19871023@163.com)
Dao-Jing Huang (1210874@tongji.edu.cn)
Kai Gong (zstb46487@126.com)
Ya-Wei Xu (xuyawei19600806@gmail.com)

Version: 4 Date: 12 January 2014

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Authors:
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Dao-Jing Huang (zstb46487@126.com)
Kai Gong (15921799351@139.com)
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Thank you for consideration of our manuscript for publication in your journal. We have reviewed the above manuscript according to your reviewers’ comments.

**Reviewer # 1 (Marco Cei)**

Comments to authors:

Shung Li and colleagues reported an interesting case of spontaneous pseudoaneurism of the iliac artery presenting as fever of unknown origin (FUO).

In my opinion the case is worth reporting; however, I would be grateful if the authors would consider some suggestions and would answer a few questions.

1. Please, report not only the number of white blood cells but also the percentage of neutrophils.

   We have now included neutrophils percent in the section of case presentation as the reviewer indicates. We also uniformly adopt the values of WBC and CRP on the day of admission. (see supplementary figure 1)

2. Did the authors perform any procalcitonin test? If yes, how were the results? If not, why?

   Yes, we did it on the day of admission. We have now included the value in the section of case presentation as the reviewer indicates. (see supplementary figure 2)

3. Did the authors consider an abdominal ultrasound before CT scan? I suspect that, being the pseudoaneurism huge, it should have been discovered by ultrasound.

   We are so sorry that physicians of emergency department missed the abdominal ultrasound; however they performed a CT scan directly on the next day of admission. We have supplied the result in the case presentation and supplementary figure 3.

4. The authors should specify the antibiotics used during the first cycle, why they've carried out a second antibiotic cycle since all culture tests were negative and the presence of a noninfectious cause was becoming more likely.

   We have now descripted antibiotics used of the first cycle in the section of case presentation as the reviewer indicates. Conventional antibiotics using cefoxitin and levofloxacin were given for 10 days in the out-patient department and 4 days in the hospital for suspected sepsis, but temperature still fluctuated and mostly remained always above 38°C. Although most culture tests were negative, CT and MRI suggested suspicious inflammatory changes. Thus, a second antibiotic cycle was regulated to use on advice from microbiologists.

5. Why a perioperative antibiotic prophylaxis in a patient already so heavily treated?

   We had mentioned that we use prophylactic Cefminox after the operation in the case presentation. Truly, this medical order of Cefminox (2g i.v. bid) was persisted only for one day and then cefoxitin (4g i.v. qd) for two days. The long duration of fever, positive procalcitonin text, intra-arterial procedures as well as coils and stent implantation are the reasons of which we took prophylactic antibiotic therapy after the operation. The patient’s subsequent clinical course was uneventful and discharged seven days after the endovascular treatment.

6. Finally, positron emission tomography (PET) has emerged as a helpful examination in noninfectious causes of FUO. The authors should clarify if they had not used PET because it was unavailable at their hospital or why else.

   PET is a really strong tool in noninfectious causes of FUO. However, we are so sorry that we couldn’t do PET examination in our hospital. PET is not popularly used in
Shanghai as for the expensive fee that is not covered in the national medical insurance of China.

Quality of written English:
Needs some language corrections before being published

We have asked an English language expert for language review to improve the literary beauty and correct possible grammatical errors. We have marked in the revised version. Please check again.

Declaration of competing interests:
I declare that I have no competing interests

Reviewer #2 (Michele Arcopinto)

Comments to authors:
The manuscript is interesting but the English language needs some improvement. Several mistakes related to writing style should be corrected
Anyway, the case relate to a rare entity in a particular site and deserve to be published after some updates.
Page 4, line 2: please specify White blood cell count with formula

We have now specified neutrophils percent in the section of case presentation as the reviewer indicates.

Page 4, line 7: please better specify the sequence of antibiotics were used

We have now specified specify the sequence of antibiotics in the section of case presentation as the reviewer indicates.

Page 4, line 9: please specify the timing of cultures with regard to antibiotic therapy

We have now included the details of antibiotics in the section of case presentation as the reviewer indicates. The blood for bacteria culture was collected on the next day of admission and the result cost 5 days (see supplementary figure 4). The first cycle of antibiotics was given routinely in the out-patient department before 10 days of admission and 4 days in the in-patient department.
The reference order does not fit the numbers in the text. Please review it.

Thank you for reviewer’s kindness. We are so sorry that we made some mistakes and errors. We have now corrected reference order in the text.

Quality of written English:
Not suitable for publication unless extensively edited

We have asked an English language expert we thank in the acknowledgement for language review to improve the literary beauty and correct possible grammatical errors.

We have marked in the revised version. Please check again.

Declaration of competing interests:
I declare that I have no competing interests
Reviewer #3 (Alessandro Cannavale)

Comments to authors:
The Authors well described this particular case of iliac pseudoaneurysm, however treatment approach of such disease is not very particular. Also some issues remained unsolved:

- Did the Authors hypothesized the mycotic origin of the pseudoaneurysm? Nevertheless the Authors should better discuss the possible origin of the pseudoaneurysm and of the fever which may be related to some antibiotics or other drugs themselves.

  Thank you for reviewers’ question. We also have focused the key point in the discussion. The elderly male patient complaining episodes of repeated fever and positive tests of procalcitonin, white blood cell, C-reactive protein as well as erythrocyte sedimentation rate made it prone to bacterial infection. However, blood culture and immune markers were negative. Therapeutic antibiotic therapies for about 4 weeks haven’t significant benefit, thus don’t support the possibility of mycotic origin.

  We wonder if the pseudoaneurysm in our case may be correlated with iliac arteriosclerosis. Extensive lesions of calcification (figure 1) caused underlying brittleness of the arterial wall both in abdominal aorta and bilateral iliac arteries made them predispose to rupture. Also some prior cases of pseudoaneurysms were reported to be associated with the process of calcification or atherosclerosis (1-6) respectively.

  Other than images, the patient’s high BMI, cigarette smoking, family history of heart attack and medical history of hypercholesterolemia all contribute to risk facts for arteriosclerosis. Besides, in this case the deep location and pelvic surroundings in a certain extent made the pseudoaneurysm presenting no remarkable pulsatile mass or ruptured hemorrhage.

- MRI images of the pseudoanurysm are needed to get better characterization

  Exactly.

  We have mentioned in the case presentation that MRI found edemas and abnormalities around left greater psoas and peritoneum (see supplementary figure 5) which we considered as inflammatory changes initially. The uncertain result may also suggest the possibility of aneurysm, although it is rare. This is also the significance and contribution of our case to clinical implication.

- When did the rupture occur? During the procedure?

  Thank you for reviewer’s question. The patient had no medical history of blunt trauma, iatrogenic procedures like organ transplantation, interventional procedures or neoplasia as well as uncertain evidence of inflammation/infection, those occupied the most possibilities that result to pseudoaneurysms (7).

  We wonder if the pseudoaneurysm in our case may be correlated with iliac arteriosclerosis and focused the hypothesis in the discussion. We tend to the idea that the rupture of pseudoaneurysm is prior to the episode of fever. Firstly, there are no certain explanations, except pseudoaneurysm, to cause episodes of repeated fever. Secondary, figure 1 also showed incomplete but thick “coating” around the extravasation of blood, which suggested not a fresh rupture.

Quality of written English:
Acceptable

Thank you
References:


Supplementary materials:

Supplementary figure 1
Report of blood test. Blood was took the next morning after admission.
The name of patient and physicians as well as some medical numbers that could disclose individual information were smeared. We are so sorry that we can only provide report written in Chinese.

Supplementary figure 2
Report of procalcitonin test. Blood was took the next morning after admission.
The name of patient and physicians as well as some medical numbers that could disclose individual information were smeared. We are so sorry that we can only provide report written in Chinese.

Supplementary figure 3
Report of brief-scanning Computed tomography (CT). CT was performed the next day after admission.
The name of patient and physicians as well as some medical numbers that could disclose individual information were smeared. We are so sorry that we can only provide report written in Chinese.

Supplementary figure 4
Report of bacterial culture. Blood was took the next morning after admission and the culture cost 5 days.
The name of patient and physicians as well as some medical numbers that could disclose individual information were smeared. We are so sorry that we can only provide report written in Chinese.

Supplementary figure 5
Pictures and report of Magnetic resonance imaging (MRI). MRI was performed the next day after admission. A, B and C were photos we took from the original figure of MRI. D is the report from radiology.
The name of patient and physicians as well as some medical numbers that could disclose individual information were smeared. We are so sorry that we can only provide report written in Chinese.