

Review 1)

The authors demonstrated the safety and efficacy of TAE for secondary PPH. The results in the present study are very interesting. However, discussion of risk factors and complication is insufficient. Major revision is required.

My questions and suggestion;

1) Introduction In the third paragraph, authors stated that "Since studies on the efficacy and the safety for patients undergoing secondary PPH are limited, the purpose of this study is to evaluate the effectiveness and the safety of TAE for patients with secondary PPH". I think that the data on TAE for secondary PPH is valuable and important, However, I can not understand the difference in the efficacy and safety for TAE between primary and secondary PPH through this article. Authors should describe the significance of reporting the TAE for secondary PPH and how it differs from primary PPH.

→ We further described according your comment at the introduction.

2) Materials and Methods Patients Authors should define "uncontrolled secondary PPH" and note it in detail.

→ The definition for uncontrolled PPH was added at the M&M (patients).

3) Results Table 2 I think that coagulation status during TAE is important. Platelet count and coagulation factors such as fibrinogen should be added. The fifth paragraph Authors mentioned complications after TAE. Among them, uterine rupture is really critical and rare. However, authors did not describe it in detail. Authors should add the cause of secondary PPH, bleeding condition, TAE procedure, embolized artery, ruptured site and length, and surgical procedure of the patient.

→ 1) The coagulation battery(PT, aPTT) was described.

2) We further described the detail of the patient occurred uterine rupture.

4) Discussion The third paragraph The authors mentioned that active bleeding sign was significantly related to multiparity. This result was interesting. However, authors did not mention the reasons for it. Additionally, authors stated it in conclusion. But the evidence is insufficient. Authors should add their presumed reasons to discussion.

→ 1) We described presumed reason about active bleeding sign and multiparity at the discussion.

2) We deleted the sentence at the conclusion.

Review 2)

<General Impression> Although there have been some previous reports of TAE for PPH, the novelty of this study is that it focuses on the difference in angiographic findings. However, the major problem is that the primary purpose described in AIM and Introduction is to evaluate the efficacy and safety of TAE, while M&M and Results are structured to place more importance on the content related to angiographic findings. Therefore, the structure of the paper should be reorganized to make it more consistent.

→ We corrected the contents of the AIM and introduction.

<Comments>

<Title> As indicated in the General Impression, modifications are needed based on the direction of this paper.

→ We corrected the title as your advise.

<Abstract> ·AIM As indicated in the General Impression, modifications are needed based on the direction of this paper. ·Conclusion The statement about the amount of blood transfusion in multiparous patients needs to be deleted because it is not relevant to the aim of this study.

→ We corrected the AIM and deleted the statement about blood transfusion.

<M&M> •Embolization Procedure It would be desirable to describe how the indication for TAE is generally determined at the participating centers. For example, are US or contrast CT performed in all cases? Are all PPH cases treated with TAE? Is there a cut-off line for an indication based on blood loss, vital signs, etc.? How selective does selective in embolization mean? Embolization of uterine artery?

→ We further described about the embolization procedure.

•Data Analysis and definitions PPH has an entirely different meaning for uterine and vaginal wall origin. Vaginal wall bleeding is not in the classification, but was it included in the cases? → vaginal wall bleeding was included in this study.

When was blood pressure measured? When was Hemoglobin measured? Was the situation unaffected by blood transfusions or transfusions? → We further described at the M&M (data analysis and definitions)

Does Vaginal packing include intrauterine balloon placement? → We further described at the M&M (data analysis and definitions) – “vaginal packing including intrauterine balloon tamponade”

The Discussion states that the Clinical cause was diagnosed by CT/US prior to embolization, but the method and timing of diagnosis should also be stated in the M&M. Clinical cause includes phenomenon like uterine artery injury and diseases such as retained placenta, so there is a possibility of overlap. Delivery is a phenomenon that causes uterine artery injury in all cases.

What exactly is the author's definition of uterine artery injury?

→ We described the definition of uterine artery injury at the M&M (data analysis and definitions)

The definition of technical success is ambiguous: technical success is defined as successful embolization of the target vessel, but ? In the active bleeding group, does it mean the isolation of a bleeding point with a pseudoaneurysm or extravasation? Or is proximal embolization acceptable?

→ We added the definition of the target artery at the M&M (embolization procedure)

<Results> Secondary PPH cause of retained placenta is evaluated in 83 patients, while atony and uterine artery injury are assessed in 46 patients. Also, atony should have been rated in 21 patients according to Table 1, but in the text, it is rated in 13 patients. These discrepancies need to be corrected. You should first explain what Table 2 shows and then move on to the detailed explanation of Table 2. The number of people in the active bleeding and non-active bleeding groups has already been mentioned at the beginning of Results, so there is no need to mention it again in the paragraph describing Table 3. In the non-active bleeding group, Table 3 and Table 4 show that embolization was performed in all patients. Therefore, the technical success rate should normally be 100%, but why was it 91.9%? The cases that caused serious complications are those in the active bleeding group or the non-active bleeding group. Embolic material is described as GS in the Discussion, but the embolic material and embolized vessel should also be described in the Result. If long-term follow-up is also to be evaluated, it needs to be stated in the M&M in advance.

→ We accepted your comment and corrected the content as much as possible.

<Discussion>. The content of the first paragraph is not necessary for the Discussion because it is the content of the Introduction. The first paragraph of the Discussion should be a summary of the research results. The number of embolized vessels is an unfair assessment. Because it is common to embolize bilateral uterine arteries in the non-active bleeding group, the number of embolized vessels is necessarily greater than 2 in the non-active bleeding group, resulting in confounding. The principle of TAE for PPH is to use particles; those cases in which particles are not used are suggested to be special circumstances (e.g., DIC, active-bleeding). The choice of embolization material may be confounded in the first place. NBCA is described as if it were a safe agent. However, embolization with NBCA for normal PPH may also increase the risk of complications such as uterine necrosis and Asherman's syndrome. Therefore, these risks should also be considered. Limitation is stated too little.

→ We accepted your comment and corrected the content as much as possible.

<Conclusion> The high amount of blood transfusion is not a matter of particular interest in this study and does not need to be mentioned. In addition, this study only shows data that there are more transfusions in the active bleeding group and more multiparous patients in the active bleeding group. Nonetheless, the authors stated that transfusions are more frequent in multiparous patients. Therefore, this interpretation is fundamentally incorrect.

→ 1) We accepted your comment and corrected the content as much as possible.

2) We deleted the sentence about transfusion at the conclusion.