Author’s response to reviews

Title: New dedicated blunt straight needles and sutures for uterine compression sutures: a retrospective study and literature review

Authors:
Shinya Matsuzaki (zacky@gyne.med.osaka-u.ac.jp)
Masayuki Endo (endo@gyne.med.osaka-u.ac.jp)
Takuji Tomimatsu (tomimatsu@gyne.med.osaka-u.ac.jp)
Satoshi Nakagawa (s.nakagawa@gyne.med.osaka-u.ac.jp)
Satoko Matsuzaki (zacky05s@gmail.com)
Tatsuya Miyake (tatsuyam0716@gmail.com)
Tsuyoshi Takiuchi (takkitakkitakki3@gmail.com)
Aiko Kakigano (ahayapyon1020@yahoo.co.jp)
Kazuya Mimura (kazuya.med_ob-gyne@hotmail.co.jp)
Yutaka Ueda (ZVF03563@nifty.ne.jp)
Tadashi Kimura (tadashi@gyne.med.osaka-u.ac.jp)

Version: 1 Date: 30 Jan 2019

Author’s response to reviews:

January 30, 2019

Dr. Hayley Henderson
Editor-in-Chief
BMC Surgery
RE: BSUR-D-18-00584_R1
Dear Dr. Henderson:

Thank you for reviewing our manuscript titled “New dedicated blunt straight needles and sutures for uterine compression sutures: a retrospective study and literature review.” The editor’s and reviewers’ comments were very helpful, and we have revised our manuscript accordingly. Our point-by-point responses to the reviewer’s comments are provided below and highlighted in blue font in the revised manuscript.

We would like to take this opportunity to express our sincere gratitude to the reviewers who identified areas of the manuscript that needed corrections or modifications. We have revised the whole manuscript to improve the presentation. The manuscript has been carefully reviewed by an experienced editor whose first language is English and who specializes in editing papers written by scientists whose native language is not English. We would also like to thank you for allowing us the opportunity to resubmit a revised copy of the manuscript.

We hope that the revised manuscript will be suitable for publication as an Original Article in BMC Surgery. We look forward to hearing from you at your earliest convenience.

Sincerely yours,

Shinya Matsuzaki, MD, PhD

Department of Obstetrics and Gynecology

Osaka University Graduate School of Medicine

2-2 Yamadaoka, Suita, Osaka 565-0871, Japan

Tel No: +81-6-6879-3355; Fax: +81-6-6879-3359

E-mail: zacky@gyne.med.osaka-u.ac.jp

Reviewers’ comments

We appreciate your insightful comments. Given below are our responses to all comments and their corresponding explanations regarding revisions made in the manuscript.
Reviewer’s comments:

Reviewer: 1

The article is adequately written and the subject discussed could be sufficiently relevant for the journal. The introduction of a new dedicated needle and suture for uterine compression sutures (UCSs) could improve the surgical technique in emergency conditions, such as the post partum hemorrhage (PPH). Moreover, major PPH requiring UCSs is relatively rare and there are not many reports in the literature. Publication of studies on this topic could be therefore useful for good practice and future research.

The data presented are retrospectively obtained from author's database, with a good number of cases. The comparison is among groups treated with different needles/sutures and techniques. In particular, the authors describe the introduction of a new needle/suture to perform Hayman sutures. This blunt straight needle seems to be developed by the authors themselves, and the entire article seems mainly focused on its usefulness, rather than on the comparison between techniques and materials.

My main recommendations and observations are the following:

The comparison between group A and B leading to the first conclusion seems appropriate, but group B and C cannot be compared without highlighting that different surgical techniques are used. The comparison is not between different needles/sutures, but between different surgical techniques (including different steps and materials, such as needles etc.). Considering this, discussion and conclusions should be modified.

We appreciate your insightful comments. Accordingly, we have added a description on this matter on Page 12, line 255 and have revised the discussion and conclusions.

The "simplicity" (Page 11, line 236) to perform the Hayman suture with the blunt straight needle shouldn't be mentioned as a result in the discussion or conclusion (Page 14, line 297), as the research is not focused on parameters describing it. In particular, it is not correct to state that Author's needle "could perform modified Hayman suture more easily compared with commercially available needle and suture types" as a conclusion of the paper, since Authors did not compare different needles on the same surgical technique (Hayman suture) in the study. The
author itself remarks this point writing that "Further studies are expected to show the efficacy and simplicity of 2-Monodiox®". On the other hand, this observation could be reported as an Author's opinion in the discussion section. Consequently, the conclusion about the comparison between groups B and C, according to Author's results, seems to be that B-Lynch with circle blunt needle/1-Monocryl and Hayman with 2-Monodiox (straight blunt needle) perform similarly in terms of outcomes.

Thank you for your suggestions. Accordingly, we have revised the Abstract and Results section. As pointed out that our study did not focus on “simplicity”; thus, we removed the description in the Abstract (Page 6, line 114), Results, Discussion (Page 12, line 247), and Conclusion (page15, line 318) sections.

The introduction should be improved. It could be enriched by few more sentences about needles and sutures used to date for UCSs, comparison among them, etc.

Thank you for your valuable comments. We have added the current status of needles and sutures for UCSs to improve the Introduction section.

Page 7, lines 133-136: Here the Authors describe materials and methods used in their institution. Probably would be better to move these concepts from the introduction to the appropriate section, "Materials and Methods".

According to your suggestions, the sentences have been moved to the Materials and Methods section.

Page 9, line 171: Please explain better since when the new needle has been used in your institution.

Accordingly, we have added the description on Page 9, line 188.
Page 10, lines 194-203: Here the Authors describe again materials used in their institution. Probably would be better to move these concepts from the "results" section to the "Materials and Methods" one.

Thank you for your helpful comments. We have moved these sentences to the Materials and Methods section and parts of the sentences have been moved to the Results section (Needles and sutures used for UCS in previous studies).

Page 11, lines 237-239: Here it is not clear what the author means. Please explain better.

As per your suggestion, we have revised the sentences accordingly on Page 12 line 243.

Page 13, lines 271-275: Here it is not clear what the author means. Please explain better.

As per instructions, we have revised the sentences on Page 13, line 282.

Reviewer: 2

The manuscript by Matsuzaki et al. provides a retrospective study evaluating the role of blunt straight needles and sutures for uterine compression. The management of post-partum haemorrhage remains a challenging issue, and it continues to be worldwide the first cause of maternal death.

For these reasons, the originality and scientific relevance of the presented study seems adequate.

On the other hand, some criticisms have to be raised:

General points:

a) The authors should be aware that despite the quite relevant number of women enrolled, given the low incidence of severe postpartum bleeding the entire statistical analysis has been performed using a low number of events. This point represents the most relevant study limitation, and it should be clearly disclosed in the Discussion section.
We appreciate your valuable comments. We believed our study had selection bias because we included “patients with PPH treated using UCSs for the uterine body due to atonic bleeding.” Therefore, most of the high risk and severe PPH patients, such as placenta previa and placenta previa complicated with placenta accreta cases, have not been included. These selection bias resulted in low incidence of severe PPH. We have added the description about this strong bias on Page 14, line 298. Our study focused on the efficacy of different needles and sutures for UCSs to the uterine body, which is the purpose of this study.

b) I appreciate the choice of dividing the whole series in three groups based on the type of surgical approach employed. However, to be clarify which specific factor may be more relevant in favouring uterus preservation the authors should carry on a multivariate analysis including in the model each variable (B-lynnch, Hayman, needle, parity, etc…). I think this point is mandatory to drive reliable conclusions, and the authors should perform this analysis in the revised manuscript version.

Thank you for your helpful comments. As pointed out, our analysis should be analyzed by multivariate analysis, including models in each variable. It is recommended that 10 events of the outcome of interest are required to perform multiple regression analysis for each variable in the models, including the exposure of interest (i.e., 10:1 events per variable) (Am J Epidemiol. 2000;151:531-9). Therefore, we could not perform multivariate analysis. We believed this was a strong bias of our study; accordingly, we stated this problem as a strong bias and limitation of our study on Page 14, line 298.

c) Did the authors used uterine artery embolization to control bleeding?

Thank you for your comments. As shown in Table 2, uterine artery embolization was performed in 1 patient.