Author’s response to reviews

Title: Management of bleeding from morbidly adherent placenta during elective repeat caesarean section: retrospective -record -based study.

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Management of bleeding from morbidly adherent placenta during elective repeat caesarean section: retrospective -record -based study.

Dear Professor Ahmed Abbas,

Many thanks for revising our manuscript in consideration for publication in BMC pregnancy and Childbirth. Our profound thanks go also to the reviewers for their valuable comments and suggestions. Please find below our responses to the points raised by the reviewers. We have uploaded a revised version of the manuscript including the necessary corrections. The changes in the manuscript have been highlighted with a yellow background.
Reviewer 1

1- Not all placental invasions are the same, so possibility of bleeding and involved pedicles are different

We have already mentioned in the results section that the majority of placenta accrete removed in our series were partial accrete and by our exclusion criteria placenta percreta were excluded. The number of associated major/minor placenta previa and and its location are given in table 1.

2- It is necessary that you describe a exact position of invasive placenta, specially to evaluate pedicles involved and efficacy of used methods,

In this case series all included patients had at least one previous CS and placenta previa/accreta as detailed in our inclusion criteria and in table 1 (including degree of previa and location). The major pedicles involved therefore were uterine arteries and its branches.

3- Bilateral uterine ligation is not an accurate method to stop bleeding from invasive placenta, since most of them are subperitoneal, area not irrigated by uterine artery,

The majority of placenta accrete in our series were partial accrete and therefore bleeding was mainly from placental bed (subdecidual/intramyometrial) hence bilateral uterine artery ligation (BUAL) was used. It is acknowledged however in our methods that BUAL in isolation was not completely effective and a combination of BUAL and other measures as balloon tamponade/cervical tamponade and intramyometrial oxytocics were used to attempt controlling bleeding.

4- Bakri balloon produce 300 mmHG of pressure over tissue, when myometrium is infiltrated, it is broken with this pressure. In some previous experiences was demonstrated that it could work only in body invasions, please clarify this point, because it will be cause of misunderstanding by readers.

As mentioned in reply to points 1 and 3 the placenta accrete encountered were not involving total placental beds and total body thickness (placenta percreta were excluded) hence balloon tamponade were feasible and partially effective.

5- There is not explained why lip inversion is a hemostatic method? there is an extensive references about the colpouterine blood supply but it is not quoted. If there is a hemostatic method, it must to occlude some vessels, but it is not specified.

Our study is supported by a similar study done by Sakhavar et al (2015) who reported that cervical inversion exerts pressure on the lower segment arteries thus reducing the vascular blood flow leading to relative hemostasis. Sakhavar et al. actually describe a slightly different technique. The cervix is inverted in a similar way to ours, after which the placental bed is sutured.
to control bleeding. After bleeding is controlled, the cervix is returned to its original position. In their study, cervical inversion was successfully applied to ten cases. In all ten cases, the bleeding was stopped within 3–5 min from the beginning of procedure. They did not report any major complications, and blood transfusions or obstetric hysterectomies were not necessary. With our technique (natural cervical tamponade), Grasping the cervical lip(s) and suturing it into the paper-thin lower uterine segment seen in such cases can help to control the massive bleeding and create a good flap that can be used in closing the uterine incision. With this technique, the cervix can be used as a natural tamponade replacing the artificial tamponades that are frequently used for stopping PPH in cases of placenta previa and placenta previa accreta. This has been added to the discussion section of the manuscript.

6-Some parts of the text are not related to the hemostatic methods and explain details about preoperative management, that are not appropriate for this paper

The preoperative management mentioned was either related to diagnostic procedures which we felt important to include or as part of our institution bundle of care which we believe is complementary to success achieved as cases were prepared and monitored appropriately with timely elective CS.

7-Some considerations about iliac internal control are outdated and were properly clarify by prospective works, even by Egyptian authors.

Consideration for internal iliac artery ligation were given only in the discussion section as second line measure to control bleeding if resources for uterine artery embolization is not available and hysterectomy is strongly resisted we emphasized however that timely hysterectomy in these cases would be life saving measure.

8-Quotation is poor and probably explain why some aspect of vascular control were omitted.

In the discussion section, we have added details about other haemostatic measures and other conservative techniques described in the literature for controlling bleeding associated with placenta accreta and previa.

Reviewer 2

1-Although individual factors are relevant, a window of 34 0/7-35 6/7 weeks of gestation is suggested as the preferred gestational age for elective cesarean delivery in women with PAS. It is necessary to discuss why the authors planned elective cesarean delivery at 35-38 weeks of gestation
By our protocol mentioned in the methods section we planned elective CS for patients with previa/accrete at 37 weeks if they have had only one episode of minor APH. If patients develop further episode of minor APH the timing of delivery were brought forward 35-36 weeks and further individualization of timing of delivery depends on frequency of APH and other maternal/foetal factors. In our experience patients with MAP/previa who experience bleeding before 34 weeks might need to be delivered at 34-36 weeks interval as this provides best compromise between reasonable foetal maturity and avoidance of serious consequences of major APH.

2-The authors need to provide information regarding the type of uterine incision used in this study.

for most cases lower segment CS incision was used unless unexpected percreta was noted intraoperatively.

3-The primary and secondary outcomes in this study should be described.

The primary outcomes for the study were the total blood loss and the need for hysterectomy. The secondary outcome was the composite outcomes of major maternal morbidities (major blood transfusion, coagulopathy, visceral injuries.). This has been added to the methods section.

4-It is recommended that the technique used in Group C be described in detail. It may be difficult for some readers to visualize this technique, and a detailed description would be necessary to gain a better understanding of the procedure.

Many thanks for this comment. The technique used in Group C was described in details in the methods section of the manuscript. A video showing the technique was uploaded as accessory file.

5-The authors have clearly shown their results in Tables 2 and 3; thus, the results section can be shortened. Repetition of results presented in Tables 2 and 3 should be avoided as far as possible.

The results section has been shortened to avoid repetition as advised by the reviewer.

6-It is important to discuss why the authors did not perform uterine artery embolization or prophylactic internal iliac artery balloon occlusion.

We need to add this paragraph in the methods section “ in our maternity unit the interventional radiology department is not based in the same location therefore it was logistically difficult to use routine preoperative prophylactic uterine artery embolization in all cases booked for elective CS”. 
The authors have stated, "The diagnosis of MAP was confirmed by histopathological study of the removed part of the placenta showing deep invasion of chorionic villi and presence of myometrial fibres." I accept that it is often difficult to diagnose PAS exclusively from the placenta. It is recommended that authors provide the representative images to clearly show these histopathological findings.

We have provided figure showing site of closely attached chorionic villi to the myometrium; stained by hematoxylin and eosin x100.

The authors should list the strengths and limitations of the study. It is recommended that a description of the bias in diagnosis of PAS be added to the manuscript. In cases of placental separation, clinicians may not always be able to conclusively diagnose whether a particular case could be classified as true placenta accreta.

We have already provided a paragraph on the weaknesses of the study in the discussion section including the possibility of performance and selection bias due to accumulating experience and selected directive counselling. As per the reviewer notion there could be also an element diagnosis bias if accrete was not verified by histopathology.

The strengths of the study is its comprehensive preoperative work-up and its significant findings using simple easy to apply techniques in low resources settings with relatively large sample size for this uncommon obstetric problem. We need to add this to the discussion section.

It is recommended that the entire manuscript be edited by a native English speaker to correct grammatical errors/inconsistencies.

One of the authors is fluent in English language as he is a consultant Obstetrician and Gynaecologist in the UK. However; we are happy to correct any grammatical errors/inconsistencies.

Page 15, line 13 to 18

The authors could delete these sentences because these are ambiguous and can cause confusion among readers.

Thanks, the mentioned lines were deleted as recommended.

Page 4, line 2; Authors need to revise (Group C 2/43, to (Group C 2/43,.

Corrected
Table 1: Authors need to define major and minor placenta previa.

Done

Authors need to revise table (1), (2), (3) to table 1, 2, 3.

Done

Yours sincerely,

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