



Reply to the comments on "Modified hysterectomy for placenta increta and percreta: modifications of what?"

Ahmed M. Hussein¹ · Ahmed Kamel¹

Received: 8 February 2019 / Accepted: 28 February 2019 / Published online: 20 March 2019
© Springer-Verlag GmbH Germany, part of Springer Nature 2019

Sir,

I thank Dr. Matsubara et al. for their comments, they had asked “what about our technique is new?”, however, we are not presenting a new novel surgical technique but rather a modification of the already known type II radical hysterectomy that was described by Cibula et al. [1] to manage cases with abnormally invasive placenta (AIP). Our modification of this technique includes a systematic standardized stepwise approach that avoids unneeded extensive dissection of the parametrium and less need for total hysterectomy, which when applied to most cases of AIP improves outcomes and also shown by our results [2].

Dr. Matsubara et al. mentioned that opening the retroperitoneum as the first step cannot be usually done in patients with AIP as the entire pelvis is usually occupied by the uterus, however, there is no reported data on the incidence of posterior invasion in cases with PAS disorders, and in our experience posterior bulging of the placenta into the pelvis is very rare [2]. This is likely attributed to the pathogenesis of AIP which is due to trophoblastic invasion of the caesarian section (CS) scar. This is supported by a significant increase in the incidence of PAS disorders coinciding with the increase in CS rates [3] thus making its major bulk more commonly extending in to the pelvis anteriorly and/or laterally. Therefore, the posterior compartment is the most accessible in these cases with the least amount bleeding, having already employed this technique on a large number of patients while yielding results that provide support to our work.

The techniques they referenced, e.g., Atallah et al. [4] describe total hysterectomy for all cases utilizing transverse incisions in the vagina and de-roofing of the ureter with no

published results, while in our study only two women had undergone total hysterectomy and none of these steps were applied. Just because we shared opening the retroperitoneum does not mean all hysterectomies that do are the same. They also referenced their work [5], where they had eight steps including intra-iliac arterial occlusion balloon catheters, placement of ureter stents, holding the cervix, avoidance of uterotonics, “M cross double ligation”, filling the bladder, and parametrial clamping; we do not apply any of these steps and we actually avoid parametrial dissection by devascularizing the broad ligament and clamping bellow the placenta, they also have no published results in this article.

The argument presented by Dr. Matsubara et al. is that if some of the same steps are used by different techniques then there is no modification, however, if you apply this then you will render all different types of hysterectomy techniques (extrafascial, intrafascial, and all types of radical) the same since they all utilize common steps including uterine artery, round and ovarian ligaments clamping, ligation, etc.

Dr. Matsubara et al. inquired about bladder dissection before uterine artery ligation. The abnormal trophoblastic invasion of the large arteries results in abnormal vascular connections [6] which provide a collateral blood supply to the vessels at the placental–myometrial–bladder interface, so uterine artery ligation first may not decrease bleeding during bladder dissection, however, in our experience less bleeding has been established when careful dissection with selective devascularization is employed. This entails separation of the placental vessels from the vesical vessels while clamping, cutting and ligating the traversing vessels, yielding a mean blood loss of 1673 ± 958 ml which is less than the reported mean blood loss in international literature with an estimated 2000–3000 ml [7]. Moreover, in cases of lateral extension of the placenta, uterine artery ligation may be not be feasible, and since our objective was to reach a standardized technique that could be applied in most cases of AIP, we, therefore, adopted the technique of bladder dissection first before uterine artery ligation. Dr. Matsubara and colleagues used

✉ Ahmed Kamel
dr.ahmed.m.kamel@gmail.com

¹ Department of Obstetrics and Gynecology, Faculty of Medicine, Cairo University, Cairo, Egypt

the word "extensive" to describe our technique of first dissecting the bladder, however, our technique involves mobilization of the bladder to a level just below the placenta to ensure clamping of the uterine vessels away from the ureter and the bladder, therefore, bladder dissection is done according to the extent of placental extension into the pelvis.

Regarding the issue of supracervical hysterectomy, Matsubara et al. [8] describe "amputation first technique" where by their description massive hemorrhage may occur if placenta previa with AIP is present, as a part of the placenta maybe transected leading to massive hemorrhage, also with no available published results. The idea is not about offering all patients supracervical hysterectomy, the aim of our technique was devascularization of the uterus and clamping the uterus at the lowest possible point just below the placenta to avoid unneeded dissection of the parametrium that will be very bloody owing to the presence of abnormal vascular connections. None of the 63 studied cases of AIP had total cervical invasion on histopathological examination, this makes supracervical hysterectomy the optimum choice in most cases. Having no enough available data on the true incidence of total cervical invasion and with reference to our results, we can conclude that total cervical invasion is rarely seen in cases of PAS disorders, thus making supracervical hysterectomy sufficient in most cases. However, two of our cases underwent total hysterectomy due to a short remaining cervical stump, therefore, total hysterectomy will still be the reasonable option in situations such as deep cervical infiltration or a very short remaining cervical stump.

Articles referenced by Dr. Matsubara et al. on avoidance of use of uterotonics [5, 9] have no published results. Our experience involved easier dissection owing to placental bulge providing clearer surgical planes showing a reasonable mean blood loss [2]. In our experience giving uterotonics in patients with large areas of invasion will not cause the placenta to separate in the non-invasive areas. There is no single study evaluating the use of uterotonics in cases of PAS disorders, therefore, we recommend that this issue should be the subject of future research to reach an evidence-based approach regarding the use of uterotonics in cases of AIP.

There is no consensus on the role of ureteric stenting in such cases, and other authors had similar results without stenting [10, 11]. The use of intervention radiological techniques requires availability of such equipment and trained personal for emergencies as well as elective surgery, the economics of which is questionable in a low economic setting.

While inquiring about the reproducibility of our technique by every doctor, the FIGO consensus guidelines on the management of PAS disorders recommended that the care of those patients should be carried out in an accreta center of excellence by a dedicated multidisciplinary team (MDT) [7]. Our technique was actually conducted by a MDT at our hospital which is specialized in the

management of such cases. In tertiary care centers with large number of cases, we recommend the presence of more than one specialized team. Our objective is to standardize a systematic technique that could be reproducible by a well-trained obstetric team.

We thank Dr. Matsubara et al. for their constructive criticism of our work and we hope to have answered their inquiries.

Compliance with ethical standards

Conflict of interest All authors declare that they have no conflict of interest.

References

1. Cibula D, Abu-Rustum NR, Benedetti-Panici P, Kohler C, Raspagliesi F, Querleu D, Morrow CP (2011) New classification system of radical hysterectomy: emphasis on a three-dimensional anatomic template for parametrial resection. *Gynecol Oncol* 122(2):264–268. <https://doi.org/10.1016/j.ygyno.2011.04.029>
2. Hussein AM, Kamel A, Raslan A, Dakhly DMR, Abdelhafeez A, Nabil M, Momtaz M (2019) Modified cesarean hysterectomy technique for management of cases of placenta increta and percreta at a tertiary referral hospital in Egypt. *Arch Gynecol Obstet*. <https://doi.org/10.1007/s00404-018-5027-7>
3. Jauniaux E, Chantraine F, Silver RM, Langhoff-Roos J (2018) FIGO consensus guidelines on placenta accreta spectrum disorders: epidemiology. *Int J Gynaecol Obstet* 140(3):265–273. <https://doi.org/10.1002/ijgo.12407>
4. Atallah D, Safi J, Kassis NE (2013) Placenta accreta and beyond: Aesop's fables. *Acta Obstet Gynecol Scand* 92(12):1430–1431. <https://doi.org/10.1111/aogs.12231>
5. Matsubara S, Kuwata T, Usui R, Watanabe T, Izumi A, Ohkuchi A, Suzuki M, Nakata M (2013) Important surgical measures and techniques at cesarean hysterectomy for placenta previa accreta. *Acta Obstet Gynecol Scand* 92(4):372–377. <https://doi.org/10.1111/aogs.12074>
6. Jauniaux E, Collins S, Burton GJ (2018) Placenta accreta spectrum: pathophysiology and evidence-based anatomy for prenatal ultrasound imaging. *Am J Obstet Gynecol* 218(1):75–87. <https://doi.org/10.1016/j.ajog.2017.05.067>
7. Allen L, Jauniaux E, Hobson S, Papillon-Smith J, Belfort MA (2018) FIGO consensus guidelines on placenta accreta spectrum disorders: nonconservative surgical management. *Int J Gynaecol Obstet* 140(3):281–290. <https://doi.org/10.1002/ijgo.12409>
8. Matsubara S, Ohkuchi A, Suzuki H, Kimura M, Takahashi H, Fujiwara H (2015) Cesarean hysterectomy: amputation-first technique (Matsubara). *Acta Obstet Gynecol Scand* 94(5):552–553. <https://doi.org/10.1111/aogs.12602>
9. Matsubara S (2012) Measures for peripartum hysterectomy for placenta previa accreta: avoiding uterotonic agents and "double distal edge pickup" mass ligation. *Arch Gynecol Obstet* 285(6):1765–1767. <https://doi.org/10.1007/s00404-011-2204-3>
10. Eller AG, Porter TF, Soisson P, Silver RM (2009) Optimal management strategies for placenta accreta. *BJOG* 116(5):648–654. <https://doi.org/10.1111/j.1471-0528.2008.02037.x>

11. Weiniger CF, Kabiri D, Ginosar Y, Ezra Y, Shachar B, Lyell DJ (2016) Suspected placenta accreta and cesarean hysterectomy: observational cohort utilizing an intraoperative decision strategy. *Eur J Obstet Gynecol Reprod Biol* 198:56–61. <https://doi.org/10.1016/j.ejogrb.2015.12.020>

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.