

Peer Review File

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Reviewer A

Comment 1: The need for vaginal access in the absence of the use of a uterine manipulator appears to require explanation. Forgoing the manipulator should mean forgoing vaginal access. The term: Manipulator-free means without vaginal access.

Reply 1: Thank you so much for highlighting this possible source of misunderstanding and for giving us the chance to enhance the quality of the article with this advice. We said, “When endometrial malignancies are ruled out, we bypassed these obstacles using a hysterometer bonded with a Schroeder forceps that, used as an easy manipulator, let the assistant push up and lateralize the uterus during the section of the parametrial, uterine vessels and paracervix tissues.” The use of a hysterometer bonded with a Schroeder might be considered a solution when a manipulation may help the surgeons during the surgery but is not used routinely. We intended to describe an easy way to use an adapted instrument instead of the different uterine manipulators that require knowledge in the assembling and positioning process. However, since this solution is far from being used routinely and might create misunderstanding among the readers, we removed this option and described only the occasional use of the small swab packed on a Schroeder forceps pushed deeply in the vagina. We modified the text as follows:

Changes in the text: [PAGE 8, LINES 129-135] In our experience, when endometrial malignancies are ruled out and when a manipulation may help the surgeons in particular steps, we bypassed these obstacles using a small swab packed on a Schroeder forceps and covered by a lubricated glover pushed deeply in the vagina. Therefore, contrary to the uterine manipulators that require the presence of a second assistant trained in the assembling and positioning process, the unique assistant can easily use their free hand to push up and lateralize the fornix during the section of the parametrial, uterine vessels and paracervix tissues. The vaginal swab also can help during colpotomy.

Comment 2: Please explain the placement of the trocars and their rationale. You mention large organs. How do I place the trocars in a small or normal uterus? Mention how the pivot point of the laparoscopic instrument has to do with the precision! (The further away the pivot point is from the operating field, the less precise the instrument guidance!)

Reply 2: Thank you so much for highlighting this lack and error in the text. In normal size uterus, the standard position of the camera is placed through the umbilical access, whereas, the ancillary trocars are placed in the left iliac fossa 2-3 cm medial and above the left iliac spine in the hypogastric region as described. We added the anatomic reason for the positioning in the text below. When a bigger uterus has to be removed, we move 3-4 cm cranially only the camera access to maintain the pivot point from the operating field.

Changes in the text: [page 12, lines 213-218] Once the first trocar is placed in the umbilicus for the camera, one 5 mm trocar is placed in the left iliac fossa 2-3 cm (approximately two thumbs) medial and above the left iliac spine to insert the trocar in the plica umbilicalis lateralis and laterally the inferior epigastric vessels. The other 5 mm trocar is placed in the hypogastric region, 2-3 cm above the pubic symphysis away from the bladder. For an enlarged uterus, it is useful to place the optical trocar 3-4 cm cranially. An alternative approach to the peritoneal cavity is the left subcostal place at Palmer's point (2 cm below the costal margin along the mid-clavicular line).

Comment 3: You should distinguish between vaginal laparoscopic-assisted hysterectomy, total laparoscopic hysterectomy (always without a vaginal approach), and supracervical hysterectomy, as the most commonly recommended solution for bleeding disorders or fibroid formation. Please describe all the advantages and disadvantages of all three approaches.

If you describe only one method, please mention that it is only one of several possible solutions. Where do you see the advantages and disadvantages of your preferred method compared to the others?

Reply 3: Thank you so much for suggesting this insight that enriches the thoroughness of our discussion. We added an articulated paragraph, including new references, for discussing this aspect in the "Comparison with other surgical techniques and researches" subchapter of the discussion which is reported below:

Changes in the text [page 16 lines 309-319]: According to the ACOG committee (15) the type of hysterectomy is based on anatomical condition, informed patient preference, and the surgeon's expertise and training. VH vaginal hysterectomy is the minimally invasive gold standard approach and is appropriate in women with mobile uteri not larger than 12 weeks gestational age. Laparoscopically Assisted Vaginal Hysterectomy (LAVH) might be chosen in peculiar situations such as when adnexectomy must be performed for large cystitis. However, it has a longer operating time compared to VH. LH shows overlap outcomes to VH and is the preferable alternative treatment when VH is not indicated or not feasible. Subtotal hysterectomy, however, can be proposed for bleeding disorders or fibroid formation reducing the complexity of the surgery and therefore the complication rate. However, endo-bag morcellation or extraction by an extra laparotomic service access are methods used to remove the corpus uteri and might be a source of complication or delay in surgical or hospitalization time (16).

Comment 4: You should strictly clarify the terminology. They replaced the manipulator with another instrument that takes over the function of the manipulator 1:1. This is not always what is meant by a "manipulator-free technique" in the literature.

Manipulator-free means without vaginal access. Please comment on this annotation.

Reply 4: Thank you for allowing us to clarify this aspect. As we mentioned before in comment number one, we described only the occasional use of the small swab packed on a Schroeder forceps pushed deeply in the vagina. We adjusted the text as below:

Changes in the text: [PAGE 8, LINES 129-135] In our experience, when endometrial malignancies are ruled out and when a manipulation may help the surgeons in particular steps, we bypassed these obstacles using a small swab packed on a Schroeder forceps and covered by a lubricated glove pushed deeply in the vagina. Therefore, contrary to the uterine manipulators that

require the presence of a second assistant trained in the assembling and positioning process, the unique assistant can easily use their free hand to push up and lateralize the fornix during the section of the parametrial, uterine vessels and paracervix tissues. The vaginal swab also can help during colpotomy.

Comment 5: The work motivates to establish a fixed, exact operational standard in the clinic. Consider standardizing all other areas of OP implementation as well. (Type of instrument connection to the operating table, the type of instrument change and complication management)

What are the most common problems? You described a nice solution of the preparation of the bladder. Are there any in other surgical steps?

Reply 5: Thank you so much for appreciating our effort in standardizing all procedures. In Our institution, there are protocols in each facet of patient care, from patient data health management to patient positioning, instrument setting and complication management. We don't report all of these aspects because they have been considered off-topic.

We described solutions for potential difficulties or complications in other surgical steps. For example in step number 1.2 we suggest creating a "safety window" at the level of the posterior page of the broad ligament to separate the ureter and the infundibulum-pelvic ligament to seal the vessels in total safety [page 13, lines 235-238]. In "Uterine vessels steps" we mentioned the development of the iuxta-uterine part of medial para-rectal space (Okabayashi space) to reduce the risk of ureteral injury [page 14, lines 260-263].

Reviewer B

Comment 1: I think this report is meaningful, because this includes concise explanation about LH procedures. So, I have only one request. In the part of Step-by-step Description, I want you to add the figure about Suture of the vagina (Figure 5?), this procedure is important for avoiding some complications, for example vaginal dehiscence and vaginal infection.

Reply 1: Dear reviewer, we are pleased to receive this appreciated review from you, and grateful for receiving your consent. Thank you so much for your important request regarding the enhancement of the section on the suture of the vagina. As you rightly said, this step is essential for avoiding complications such as vaginal dehiscence and vaginal infection. We certainly add the figure in the text.

Changes in the text [page 14, lines 270-273]: The suture can be done vaginally or laparoscopically, with a continued suture or with disconnected stitches it depends on the surgeon's skills and preferences. We prefer to perform it laparoscopically to reduce complications such as vaginal dehiscence and vaginal infection. We advise to include in the suture, the uterosacral ligaments, to a greater suspension to the vaginal cuff (Fig. 5a,5b).
