Is one-minute difference in operation time meaningful?

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In this May issue of the *Journal of the Chinese Medical Association*, a very interesting article entitled "Outcome comparison between vaginoscopy and standard hysteroscopy: A retrospective cohort study" has been published.[1] We are very glad to introduce this article.

With advanced technology and improvement of patients' care, minimally invasive procedures have become much more attractive and popular in modern clinical practice,[2–5] although some uncertainties are still debated.[6,7] In addition, some modifications of original minimally invasive procedures have been progressed and developed continuously to further reduce the invasiveness of the original design of minimally invasive procedures without compromising therapeutic outcome or diagnostic accuracy. Natural orifice laparoscopy or hysteroscopy and single-port laparoscopy in place of original three-port or four-port wound laparoscopy and traditionally laparotomy are one of the most famous examples.[8,9] In the current article, Dr. Tien's group attempted to test whether it is possible to reduce the invasiveness of office hysteroscopy with sparing speculum insertion and cervical traction in the management of women with various kinds of uterine pathologies.[1] The authors retrospectively evaluated the feasibility of patients who underwent office hysteroscopy (a rigid 2.9-mm 30° Bettocchi hysteroscopy system and a 5-mm external sheath [Karl Storz, Tuttlingen, Germany]) with sparing speculum and cervical traction (called vaginoscopy, n = 45), and they used the standard office hysteroscopy (called hysteroscopy, n = 55) as a comparison group.[1] They found that without compromising any diagnostic accuracy and decreasing success rate of examination, vaginoscopy took the statistically significant advantages, including less pain (visual analog scale [VAS] 3 vs. 5) as well as the need for less operation time (135 seconds vs. 190 seconds) compared to hysteroscopy did.[1] We congratulated the success of their publication. However, there are certain uncertainties worthy of our attention.

First, as shown by our previous comments,[10,11] in consideration of statistically significant difference of operation time between vaginoscopy and hysteroscopy (2 min vs. 3 min) in Dr. Tien's study,[1] it should be carefully interpreted whether this "significance" is clinically meaningful. Additionally, other concern is addressed to calculate the operation time in their study. Is the time for preparation included as part of "operation time"? Compared to vaginoscopy, two apparent procedures should be done in hysteroscopy, including speculum insertion and cervical traction. If the difference of one minute between vaginoscopy and hysteroscopy was found, it suggested that these two extra procedures took one minute. It is highly possible that the authors have misinterpreted their data. If aseptic step should be done in both procedures, we do not believe that the time required for aseptic step was similar between the two procedures. The reason is shown below. With the assistance of the speculum, the cervix can be well visible, and the following aseptic step can be done in an easy, more efficient, and time-saved way. It is hard for us that we perform this aseptic step without seeing the cervix. In addition, without speculum to separate the vaginal wall as well as to reveal the cervical os, the blind rigid hysteroscopy instrument may have a higher chance to contact or touch the relatively uncleaning vaginal wall or fornix of the vagina. Furthermore, it is doubtful that this blind approach to perform aseptic steps does not cause any discomfort. We also questioned the pain of the blind approach during aseptic step was less than that of the visible approach. Moreover, it is questionable about the efficiency of aseptic step using blind approach.

We believed that the aforementioned argument may be correlated with clinical misinterpretation. In fact, there is no doubt that there are many misinterpretations in modern clinical practice, especially for new tests or new treatments. For example, many surgeons (experts) who are "unfamiliar" with laparoscopy often argued the feasibility of the use of laparoscopic surgery in place of traditional laparotomy in the management of women with hemoperitoneum, especially for certain benign gynecological emergencies. These "experts" often provided the following "beliefs" to remind them that more time is required to set up the laparoscopy (a longer docking time) compared to traditional laparotomy, which may be significantly harmful to the patients.[12] After decades passing, many of the aforementioned issues are no longer to be raised anymore. The concept of "learning curve"

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has been well understood when the application of any new technology is introduced to routine clinical practice. The simulator was used to dramatically decrease the unnecessary time consumption when these newly developed technologies have been applied in clinical practice.[13,14]

Second, the authors demonstrated that pain was much more severe in hysteroscopy compared to vaginoscopy. Some uncertainties need clarification. As shown by the authors, more pain (VAS = 5) was found in the hysteroscopy group than that in vaginoscopy group (VAS = 3).[1] It is hard to believe that speculum insertion or cervical traction was the cause of adding pain, resultant in this statistically significant difference. During the hysteroscopy procedure, the most critical and key step to producing pain is the "penetration" of the cervix into the uterine cavity. If the same rigid 2.9-mm 30° Bettocchi hysteroscopy system and a 5-mm external sheath (Karl Storz, Tuttlingen, Germany) were applied in both procedures, it is rationale to suppose that pain during penetration of cervical channel to the uterine cavity is similar in both groups.

It is also questionable to accept the authors' suggestion that the "vaginoscopy" is a "no-touch" technique. To finish the examination by rigid hysteroscopy, it is possible that this rigid hysteroscopy instrument increases the chance to touch the vagina and cervix before passing through the cervical os and then entering into the uterine cavity. Therefore, the description of "no-touch" in the authors' study may further increase the risk to overestimate the benefits of vaginoscopy.

Third, it is well known that not all women have a "normal" position of the uterus. Severe or large-degree anteverted or retroverted positions of the uterus make the procedure of hysteroscopy hard to perform. In addition, the difficulty may be much more apparent when a rigid hysteroscopy instrument is applied. In our clinical practice, the cervical traction can maintain the long-axis of the uterus in a line direction paralleled to the rigid hysteroscopy instrument, and this indeed makes the examination by rigid hysteroscopy more smoothly and uneventfully, which may be associated with less pain during the hysteroscopy procedure. That is a reason that we doubted the findings the authors provided.

Although we raised many questions for their study, we do not underestimate the efforts provided by the authors. We believe that any attempt to increase the compliance of patients to face or receive diagnostic procedures or therapies is welcome since pain is always the biggest issue for patients[15] when physicians would like to provide the opportunities or strategies in assistance of the patients. The value of the authors' finding may focus on the pain reduction, and we should neglect the only one-minute difference of operation time, although it reaches a statistical significance. By contrast, if the pain is severe enough to bother these patients or subjects who undergo an examination, even one-second reduction may be of high value.

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