



Management of concomitant cervical insufficiency and intrauterine adhesions

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In the current edition of *Annals of Translational Medicine*, Li *et al.* in the article entitled “Diagnosis and treatment of cervical incompetence combined with intrauterine adhesions” present very interesting management of 10 women suffering from the co-existence of cervical insufficiency (CI) and intrauterine adhesions (IUAs) (1). The authors clearly described clinical difficulties in the diagnosis, treatment and prognosis in their patients who wish to get pregnant. The medical protocols proposed by the authors are worthy of readers’ attention, particularly as the obstetric outcomes obtained by the authors in this challenging group of women are excellent, i.e., 60% of pregnancies with full-term delivery rate of 83% (1).

The authors point to causes of co-occurrence of CI and IUAs. Treatment of one of these pathologies leads to aggravation of the other one. It should be taken into consideration that CI patients usually undergo multiple uterine operations as well as CI is one of the main causes of recurrent abortions and the following curettage. On the other hand, IUAs are most often secondary to intrauterine operations.

The authors do not use the term “Asherman syndrome” (AS), which is well-known to many obstetricians. It is worth mentioning that AS results from the endometrium injury. In AS, either IUA or fibrosis is diagnosed, however the presence of IUA does not meet the criteria of AS in case of asymptomatic clinical picture (2,3). The incidence of IUAs is estimated at 1.7% to 45.5% ranging from 19.1% following dilatation and curettage to as high as 42% in case

of moderate or severe conditions (4-6).

The key cause of IUAs represents the endometrial zona basalis injury, which is predominantly related to intrauterine surgeries with special reference to dilation and curettage. The above-mentioned procedures are usually performed after termination of pregnancy (7). The previous history of patients presented by Li *et al.* (1) included adverse obstetric outcomes, quote: “The mean number of adverse pregnancies were 1.80 ± 0.63 (1 to 3)”, however the authors do not specify them. On the other hand, the study was performed in China, where the universal two-child policy had been implemented (8). Accordingly, there is a noticeable trend towards advanced age of pregnant women, which in turn increases the number of complicated pregnancies. Similarly, since prenatal techniques are commonly implemented, abnormalities and fetal pathologies are diagnosed more frequently. A vast proportion of such patients decide to terminate pregnancies, hoping to get an uncomplicated pregnancy afterwards (7).

The physiology of pregnancy deals with loosening of the endometrial zona basalis and proliferation of blood vessels thus repetitive scratching can injure the basal layer of endometrium. Following the end of pregnancy, hormonal imbalance affects oxygen supply and angiogenesis, which in turn increases the adhesion factor exudation, the endometrial repair latency, and the formation of uterine cavity adhesions (7).

Main symptoms of AS encompass pain, abnormal menstruation and reproduction dysfunction (9). Obstetric

complications include infertility and recurrent pregnancy loss.

Hysteroscopy represents the golden diagnostic standard for IUA. Asymptomatic women do not require surgical procedures, otherwise hysteroscopic intervention should be considered to remove the adhesions (3). The extent and severity of IUAs are typically evaluated according to the AFS scoring system (10). Scores of 1–4, 5–8, and 9–12 are considered as mild, moderate, and severe adhesions, respectively (10).

The standard treatment for IUAs is lysis under direct hysteroscopic visualization (9). Various surgical instruments and techniques can be used, however the importance of the first hysteroscopic adhesiolysis (HA) has to be emphasized. HA should limit further destruction of the residual endometrium and the risk of subsequent operations (3). It should be noted that the high recurrence rate of postoperative adhesions is the primary challenge. The AFS score seems to be the most useful tool for prediction of IUAs recurrence. The recurrence rate following treatment is as high as 33% in women with mild to moderate IUAs and 66% in women with severe adhesions (11). Presently, several methods prevent the recurrence of adhesion, including physical barriers, hyaluronic acid gel, amniongraft, and hormone therapy. Nevertheless, a universally recognized effective standard preventive strategy is yet lacking (12). The most common physical barriers that can prevent the recurrence of adhesion after HA are intrauterine device (IUD) and Foley's catheter balloon. Li *et al.* (1) also emphasized that prevention is very important. They used the uterine-shaped loop IUD and hormone therapy to prevent the formation of recurrent IUAs in their group of patients with the pre-operative AFS score of 9.8 (range, 8 to 12). This special IUD presented in Figure 1 seems to accurately isolate the two sides of the uterine cavity and uterine horn. This procedure was successful in 9 women. The remaining 1 patient suffered from an excessively loose cervix to effectively use the IUD or distended Foley's catheter balloon. This woman was treated with laparoscopic cervical cerclage before the second HA. The authors informed that the mean number of HA for the whole group was 2.8 (range, 2 to 5), which was also related to the study protocol, i.e., "following up hysteroscopy was carried out 1 month and 4 months after initial HA".

Pregnant women with previous history of surgical treatment due to AS should be carefully monitored (3). The chance of pregnancy following HA seems to depend

on the disease advancement. In a retrospective study of 357 patients with previous HA, who were followed for a mean of 27 months, the pregnancy rates were 61% (mild disease), 53% (moderate disease), and 25% (severe disease); with the mean time to conception of 9.7 ± 3.7 months, the miscarriage rate of 9.4%, and the overall live birth rate of 86% (13). A second retrospective study of 154 women reported similar findings with a live birth rate of 64% for the entire cohort of women with AS after HA (14). The systematic review of 54 studies including 4,953 AS subjects showed that the prevalence of cervical incompetence was reported as 12.5% (3).

Pregnancies in women with a history of moderate to severe IUAs should be considered high risk. Pregnancy complications can include intrauterine growth restriction, preterm delivery, and abnormal placentation (3). Li *et al.* (1) in their study group suffering from co-existence of CI and IUA obtained 33.3% of placental adhesion requiring only manual detachment.

In the cited study (1) all 10 patients presented painless cervical dilation during the second trimester of their previous pregnancies. CI was diagnosed based on the unobstructed passage of the No. 7 Hegar dilator through the intracervical canal. However, in case of 4 patients with adhesions of the cervical canal and the lower uterine segment; the final diagnoses were confirmed 3 months following HA. The authors draw attention that the diagnosis of concomitant CI and IUA should be pronounced with caution since problems experienced at the time of Hegar dilator introduction are likely to result in misdiagnoses even leading to false passage and uterine perforation.

Li *et al.* (1) recommend laparoscopic cervical cerclage for patients with CI co-existing with IUA, because the benefits of this procedure "outweigh its drawbacks as it is primordial in ensuring increased live birth rate". Transabdominal cervicoisthmic cerclage is generally recommended in patients in whom cerclage is required due to CI but cannot be placed because of certain anatomical limitations or in case of unsuccessful transvaginal cervical cerclage procedures that resulted in second-trimester pregnancy loss. Transabdominal cerclage can be performed through laparotomy or laparoscopy depending on the physician's experience or patient preferences (15). This approach has several potential advantages over the transvaginal approach: it is easier to locate the stitch at the level of the internal cervical os, suture migration is less frequent, there is no foreign body in the vagina that could trigger infection, and the suture can be left in situ for future pregnancies.

However, removal generally require laparotomy (16,17).

The study protocol includes final detection of the suture penetration by hysteroscopy following laparoscopic cervical cerclage. The authors informed, quote: “No suture penetration was detected by hysteroscopy. The cervix accommodated up to the No. 6 Hegar dilator without resistance but cannot through the No. 8 Hegar dilator”. This approach does not seem to be necessary, and in my opinion may reduce the benefits associated with the entire procedure performed in these patients.

In conclusion, the authors should receive congratulations on this thought-provoking study which provides interesting results of their management of the group of ten women with CI complicated with moderate-severe IUAs. Laparoscopic cervical cerclage before pregnancy is one of the promising options in these cases. The Li and colleagues’ findings should be used to prevent obstetric complications in women suffering from the co-existence of IUA and CI. Nevertheless, the sequence of treatment of these pathologies should be decided upon the specific circumstances, including their severity and localization as well as female obstetric history and future conception plans.

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Footnote

Conflicts of Interest: The author has completed the ICMJE uniform disclosure form (available at <http://dx.doi.org/10.21037/atm.2020.03.137>). The author has no conflicts of interest to declare.

Ethical Statement: The author is accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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