



Obstetrical outcome in the third trimester after hysteroscopic adhesiolysis

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Intrauterine adhesions (IUA) are a major challenge for surgeons treating women in their reproductive years and have been the focus of scientific societies assembled to increase surgeon's awareness on adhesion-related complications. Their management was an object of debate in the "Adhesion Session" of the Special Interest Adhesion Research Group of the European Society of Gynecological Endoscopy (ESGE) and the Anti-adhesions in Gynaecology Expert Panel-group (ANGEL), during the Annual Meeting of the ESGE, Vienna, 7-10.10.2018 (1). The evidence about reproductive outcomes after hysteroscopic adhesiolysis and IUA prevention is limited, therefore, we thank Qing Feng *et al.* (2) for their effort to report the obstetrical outcomes of women with a history of hysteroscopic adhesiolysis (HA).

This retrospective analysis showed that of 21,098 third trimester deliveries, 171 (0.81%) births occurred after HA; of which 5.85% were multiple births, 1.75% required operative vaginal delivery and 2.92% presented intrauterine fetal death. Among women with singleton live term births, Qing Feng *et al.* found a significantly higher incidence of obstetrical complications in the case group (146 women with HA) when compared with the control group (292 women with a negative history of HA), including abnormal placentation (71.2% *vs.* 45.2%), postpartum hemorrhage (8.9% *vs.* 1.0%), and a higher cesarean section rate (54.8% *vs.* 28.8%). Interestingly, the authors report that obstetric outcomes were significantly different ($P < 0.05$) within patients who presented with severe adhesions at HA. Patients with severe IUA delivered 1 week earlier, suffered

more abnormal placentation-related complications such as placenta previa, retained placenta, and postpartum hemorrhage (PPH). Additionally, their newborns had significantly lower Apgar scores at 1 and 5 minutes after birth.

However, neither the prevalence of amenorrhea, spontaneous and elective terminations of each group or the pregnancy rate (PR) according to IUA severity were presented. Moreover, the authors did not report any information about the techniques used for HA or the use of adjuvant measures to prevent IUA recurrence. It is known that IUA develop as a result of certain conditions and procedures, when the basalis layer is disrupted during intrauterine operations and thereafter the functional layer is replaced by an inactive epithelial monolayer, resulting in uterine cavity distortion, abnormal placentation, and poor reproductive outcomes (1). Nevertheless, a prospective study of Sanad *et al.* (3) shows that fertility outcomes are significantly affected by the degree of IUA and are not related with the bleeding pattern before HA. A meta-analysis by Konci *et al.* (4), comparing various adjunctive postoperative treatments in patients receiving hormone therapy, found that the use of Foley catheter or amnion graft as an adjunctive therapy after HA failed to add benefits (OR 1.55; 95% CI: 0.60–3.99).

In addition, it would have been helpful that authors provide information about IUA location. A prospective observational study made by Zhao *et al.* (5) showed that the location and extent of adhesions are independent parameters

related to the reproductive outcome for fertility-desiring women ($P=0.011$ and $P=0.003$, respectively). Furthermore, information regarding the number of HA patients underwent, before becoming pregnant, would have been of value to know. Regarding this, a retrospective Chinese study conducted by Xu *et al.* (6), showed that the pregnancy rate (PR) and live birth rate (LBR) were significant higher in the group which received adhesiolysis less than three times ($P=0.027$, OR =2.969), and when second hysteroscopy was performed within 2 months (53.0% PR and 71.5% LBR; $P<0.05$).

A recent metaanalysis of 54 studies and 4640 women performed by Guo *et al.* (7), found that, when analyzed according to adhesion severity (American fertility society classification), patients with severe IUA had a lower PR (28.7 vs. 71.3%). This was significantly lower in the case of women with severe adhesions compared to women with mild adhesions (Pooled PR 50.7%; 95% CI: 49.1 to 52.3). Another prospective study performed by Chen *et al.* (8) examining 332 Chinese women who had a completely restored uterine cavity after HA, reported lower overall conception rates in the group of severe IUA (mild, 60.7%; moderate, 53.4%; severe, 25%). Additionally, Xu *et al.* (6) found that the following are risk factors for infertility in patients with severe IUAs and amenorrhea: age >32 years ($P=0.002$, OR =3.442), >2 surgeries ($P=0.027$, OR =2.969), cervical canal adhesions ($P=0.047$, OR =2.112), and disease course >6 months ($P=0.037$, OR 2.335).

Despite the above-mentioned limitations of the study, the interesting results of authors highlight the importance of adhesion prevention during intrauterine procedures. As the authors recommend, because of their high risks of placental-related complications, physicians should give special attention to pregnant women who conceived after HA, especially those with history of severe IUA. Furthermore, the risk of post-operative adhesions could be systematically discussed with any patient scheduled for intrauterine surgery prior to obtaining her informed consent. At the same time, in order to fulfill their duty of care towards patients undergoing intrauterine surgery, gynecologists should use good surgical techniques and practice postoperative adhesions prevention in gynecological surgery (9) by adopting a routine adhesion reduction strategy (10,11), at the very least for patients undergoing high-risk of adhesion surgeries like adhesiolysis, myomectomy or septum resection. Further efforts are required to establish a universal IUA classification scheme as well as a prognostic scoring system to identify women at

high risk of postoperative adhesions for advising those who could benefit most from the use of antiadhesion methods.

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Footnote

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