Primary Hysteroscopic Treatment of Miscarriages: Is it Our Future or Just a Fad?

In this issue of *Journal of Minimally Invasive Gynecology (JMIG)*, we highlight a pilot study of primary hysteroscopic management of early miscarriage. Historically, patients have been offered a dilation and curettage (D&C) as the only surgical treatment option for miscarriage. Typically done without ultrasound guidance, D&Cs may be associated with complications, including bleeding, infection, and perforation [1–3]. Importantly, D&Cs can disrupt the basalis layer of the endometrium leading to increased risk of intrauterine adhesions and subsequent hypofertility [1]. Risk of intrauterine adhesions after miscarriage have been reported as high as 40% and may be increased with repeated operative procedures [1,3]. As highlighted by Weinberg et al [4] in this issue of *JMIG*, reducing the risk of perioperative morbidity of D&Cs, repeat procedures, development of intrauterine adhesions and associated hypofertility are important considerations when treating early miscarriages.

The safety of hysteroscopy for a miscarriage can be derived from the wide body of literature on hysteroscopic management used for treating retained products of conception. A recent systemic review and meta-analysis consisting of 20 studies and 2000 patients quoted a 91% rate of complete resection after one procedure and a 0.07% rate of postsurgical intrauterine adhesions [3]. There was a 2% complication rate which included perforation, fluid overload, fever, and hemorrhage.

There are a few retrospective reports on hysteroscopy as a primary treatment for early miscarriage. de Codt et al [2] presented a retrospective cohort study comparing outcomes in patients who underwent primary hysteroscopic management of early miscarriage with D&C or hysteroscopy with cold loop resectoscope. Complications, including cervical lacerations, uterine perforations, and endometritis were rare in both treatment groups. Hemorrhage, defined as more than 500 mL blood loss, occurred in 2 cases from the D&C group.

When considering primary hysteroscopic management of early miscarriage, a proposed benefit is the potential for directed biopsy of the tissue. Cholkeri-Singh et al [5] compared the fetal tissue specimens of patients with early miscarriage who underwent D&C alone to those undergoing directed biopsy under hysteroscopic visualization followed by D&C. Hysteroscopically directed biopsy of fetal tissue significantly reduced the rate of maternal contamination of specimens. Though this method of biopsy could provide patients with additional information to guide management of future pregnancies, this fetal genetic testing may only be appropriate in a small subset of these patients.

In this prospective pilot study, Weinberg et al [4] used a morcellator which is likely more available and preferred over a loop electrode by most gynecologists. They focused on performing their morcellation safely by using both abdominal ultrasound for intraoperative guidance and vagi-nal ultrasound at the end of the procedure to confirm complete removal of the tissue. Four of their 10 patients had suspected residual tissue by the transvaginal ultrasound with a D&C then performed immediately. Only one of these patients had pathology confirmed villi which was attributed to a second sac in a different location. No intraoperative complications were reported, and no patients had retained products on postoperative follow up ultrasound. The authors emphasized that this was a pilot study and that their technique may be appropriate only for selected patients. It is important to note the authors’ emphasis on safety in their surgical technique including obtaining prospective IRB approval and listing their study protocol on the Israeli Ministry of Health registry site (https://my.health.gov.il/CliniTrials/Pages/MOH_2020-07-12_009131.aspx).

Primary hysteroscopic management of early miscarriage has possible benefits including a high rate of complete removal in one procedure, ability to perform focused biopsy of the tissue, and potential to reduce formation of

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intrauterine adhesions while likely not significantly increasing risk of perioperative complications. Limitations include the potential higher cost and required resources and surgical expertise. Prospective studies are needed to evaluate complications, cost, and patient satisfaction. Surgical management of early miscarriages is an important option for women and the reporting of new, innovative, techniques is a core mission of *JMIG*. We look forward to future prospective studies to explore and either confirm the value and role of this approach...or show it is a well-intentioned but temporary fad!

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