Journal of Reproductive Medicine August 2016

Clinical Summary:

Fertility Outcomes After Hysteroscopic Morcellation of Intrauterine Leiomyomas and Polyps

Bhalani V, Chang, A, Adkins, C, Chen S*, Scheiber M.*

Vaishali Bhalani, M.D., Andrew Chang, M.D., Christen Adkins, M.D., Serena H. Chen, M.D., and Michael Scheiber, M.D., M.P.H. Fertility outcomes after hysteroscopic morcellation of intrauterine leiomyomas and polyps. J Reprod Med. 2016;61(4):327-335.

*Drs. Chen and Scheiber have previously received remuneration for speaking engagements from Hologic.

Objectives: To assess fertility outcomes in infertile women after hysteroscopic morcellation of intrauterine lesions.

Methods

Study Type: retrospective case series from two US fertility clinics

Patients – 62 women:
- Underwent hysteroscopic removal of intrauterine pathology with the MyoSure system

History of infertility or recurrent pregnancy loss defined as:
- ≥6 mos infertility <35 yo
- ≥12 mos ≥35
- ≥2 clinical pregnancy losses

Reasons for infertility:
- Uterine factor only (8%)
- Male factor (31%)
- Tubal factor (15%)
- History of recurrent abortion (7%)
- Ovarian dysfunction (55%)
- Endometriosis (16%)
- Other (11%)

Primary outcome:
- Pregnancies and subsequent live births during follow-up

Secondary outcome:
- Mean time to pregnancy
- Age at pregnancy
- Size and number of pathology
- Percent of pathology removed

All morcellation procedures were performed using the MyoSure hysteroscopic tissue removal system (classic device used for all procedures)

This study was funded by Hologic Inc.

Results

- **No intra-operative complications occurred**
- **Demographic and baseline clinical info on the 62 women included in the study**
  - Average age 37.1 y/o
  - Reasons for infertility were multivariate: ovarian dysfunction (59%), male factor (31%), endometriosis (16%), uterine factor only (8%)
  - 7% with recurrent pregnancy loss.
- **Pregnancy**
  - Achieved by 44/62 (**71%**) of women
  - Delivery of healthy infant – **89% of women who became pregnan**t
  - Mean treatment-to-pregnancy interval was 8.4 months
- **Tissue removed**
  - 67 intrauterine lesions identified in the 44 women who became pregnant
  - Fibroids – 21%; (Type 0 – 74%; Type 1 – 26%)
  - Polyps – 70%
  - Other (synechiae, RPOCs) - 9%
- **Mean amount of tissue removed**
  - Fibroids – 95.8%
  - Polyps – 100%

Pregnancy Outcomes

71%
of women studied became pregnant (44/62)

89%
delivery of healthy infant in woman studied who became pregnant

Discussion /Talking Points

- Women with infertility often have intrauterine pathology (polyps and fibroids) in addition to other causes such as ovarian dysfunction, endometriosis, etc.
- Removal of intrauterine pathology before assisted reproductive technologies (ART) can improve pregnancy rates and live births.
- MyoSure can be used safely for the purpose of resecting intrauterine pathology and normalizing the cavity prior to ART.
- Pregnancy rates after MyoSure tissue removal in this patient population is consistent with other studies demonstrating intrauterine tissue removal in subfertile patients undergoing ART.

Post-procedure intrauterine adhesions (IUA) can occur which can impair fertility:

Procedure	Incidence of IUA
Monopolar resecting loop	31%
Bipolar resecting device	7.5%
Cold loop (no energy)	4% “a value closer to what we might expect with hysteroscopic morcellation”

Conclusion

In women with infertility or recurrent pregnancy loss with intrauterine pathology, MyoSure hysteroscopic tissue removal for normalization of the cavity supports subsequent conception and live birth.

Similar Studies	Results
Pérez-Medina T, et al. Endometrial polyps and their implication in the pregnancy rates of patients undergoing intrauterine insemination: a prospective, randomized study. Hum Reprod. 2005; 20:1632–5	Hysteroscopic polypectomy before IUI is an effective measure.
Varasteh N, et al. Pregnancy Rates After Hysteroscopic Polypectomy and Myomectomy in Infertile Women. Obstet Gy-necol 1999; 94:168-171.	Both hysteroscopic polypectomy and hysteroscopic myomectomy appear to enhance fertility compared with infertile women with normal cavities.
Taskin O, et al. Role of endometrial suppression on the frequency of intrauterine adhesions after resectoscopic surgery.	Monopolar electrosurgical resection of intrauterine fibroids was 31% at second look hysteroscopy and was 45% in women with multiple fibroids
Touboul C, et al. Uterine synechiae after bipolar hysteroscopic resection of submucosal myomas in patients with infertility. Fertil Steril 2009; 92:1690-3.	The incidence of intrauterine adhesions after bipolar hysteroscopic resection of fibroids was 7.5%.
Mazzon I, et al. Does cold loop hysteroscopic myomectomy reduce intrauterine adhesions? A retrospective study. Fertil Steril 2014:294-8.	The incidence of intrauterine adhesions after cold loop hysteroscopic myomectomy was 4.2%