

Isthmocele: Obstetric Outcomes After Robotic-Assisted Laparoscopic Repair

Natalia S. Parra, MD (resident); Sierra J. Seaman, MD; Sherelle Laifer-Narin, MD; Arnold P. Advincula, MD; Chetna Arora, MD

OBJECTIVE

To review our institution's comprehensive data following robotic assisted laparoscopic isthmocele repair (RA-IR) inclusive of obstetric outcomes and changes in the dimensions of the cesarean niche. Our primary outcome was postoperative live birth rate.

METHODS

This was a retrospective case series at a single large tertiary medical center in the United States. All women with an identified isthmocele who underwent RA-IR with or without hysteroscopic guidance between 9/2015 and 12/2022 were included in the study. After undergoing RA-IR, a detailed chart review was performed and patients were sent a questionnaire regarding their postoperative obstetric outcomes, symptom profile, and satisfaction with the surgery. Our primary outcome was postoperative live births. Secondary outcomes included fertility rate, symptom improvement, and postoperative change in myometrial depth, width, and residual myometrial thickness.

RESULTS

Of 13 patients who attempted pregnancy, 100% were able to conceive status post repair including six of the patients with a preoperative diagnosis of primary or secondary infertility. To date, 53.84% of patients who attempted conception after repair have had live births. Two patients are currently pregnant in their second or third trimester without complication. Postoperative MRI was complete for the majority of patients. The greatest difference was seen in the depth of the isthmocele. The residual myometrial thickness increased by an average of 4.38 (SD 3.50) postoperatively. Twelve patients completed a questionnaire regarding symptoms and obstetric outcomes. Postoperatively, 100% had improvement in their symptoms with 66.67% reporting complete resolution.

CONCLUSIONS

RA-IR results in improved defect width and residual myometrial thickness with preservation of fertility and good obstetric outcomes with a 53.84% live birth rate.

Robotic-assisted laparoscopic isthmocele repair improved defect width, depth, and residual myometrial thickness with preservation of fertility and good obstetric outcomes with a 53.84% live birth rate and 100% improvement in symptoms.

FIGURES / TABLES

Table 1: Pre- and Postoperative Isthmocele Measurements

	Defect width mm (mean ± SD)	Defect depth mm (mean ± SD)	Residual myometrial thickness mm (mean ± SD)
Preoperative measurements (n=15)	8.63 (6.53)	8.74 (2.71)	0.67 (1.11)
Postoperative measurements (n=13)	3.42 (2.73)	2.71 (2.37)	5.13 (3.58)
Difference in pre- and postoperative measurements	5.41 (7.20)	6.13 (9.93)	4.38 (3.50)
P-value	.001	.006	<.0001

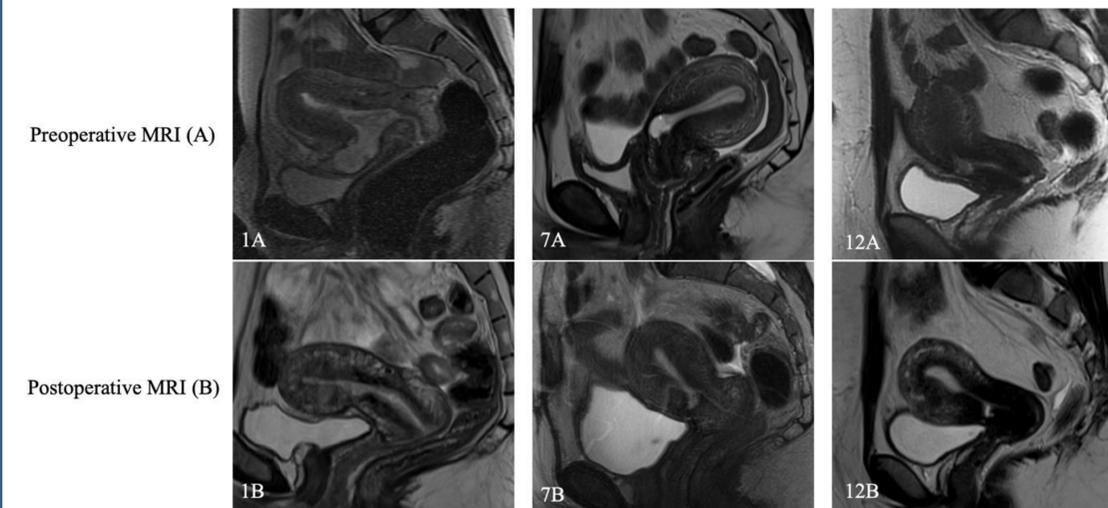


Figure 1: Examples of Pre-Operative and Post-Operative MRI Findings

Patient 1 had the largest defect preoperatively in the setting of a pelvic abscess and uterine dehiscence; postoperatively she had a residual myometrial thickness of 5mm. Her obstetric outcomes post-repair are unknown. Post repair, patient 7 went on to have an IUI pregnancy, but sadly miscarried in the first trimester. Patient 12 went on to have a successful full-term cesarean section.