

POSTERIOR PELVIC FLOOR SLING: A MINIMALLY INVASIVE PROCEDURE FOR CORRECTION OF FECAL INCONTINENCE.

Hypothesis / aims of study

Fecal incontinence is defined as the involuntary loss of stool (stool, liquid, or gas) and is a significant medical problem, as well as a socially debilitating issue. Several surgical procedures have been utilized in the past to treat this condition, but none has borne out to be clearly superior or especially effective. The posterior pelvic floor sling is a minimally invasive procedure that places a synthetic sling behind the anorectum to provide posterior support, in a manner similar to the natural support provided by the puborectalis muscle. This procedure is most similar to the perineal puborectalis sling that was described in 2004 [1]. This is a retrospective analysis designed to assess the efficacy of this posterior pelvic floor sling for the treatment of Fecal Incontinence.

Study design, materials and methods

Patients were referred to the clinic for various conditions, including urinary incontinence, pelvic organ prolapse and fecal incontinence. 15 patients underwent the procedure between January 2006 and September 2007. For the evaluation of fecal incontinence, patients were asked to fill out intake questionnaires, bowel diaries and Fecal Incontinence Quality of Life Questionnaires (FIQOL) pre-operatively and post-operatively.

The posterior pelvic floor sling procedure was performed as follows: local anesthetic was injected into the post anal area and medial thighs through the obturator foramen. A 3-cm vertical incision was made between the anus and the coccyx, superficial to the levator plate, and lateral dissection was performed, exposing the ischioanal fossa; a modification was later made that involved making 2 small (1 cm) incisions 2 cm lateral and 3 cm posterior to the anus. A small nick was made on the medial thigh just lateral to the ischiopubic ramus at the level of the urethra, and a curved introducer needle was placed through the medial thigh incision, around the ischiopubic ramus, and was directed posteriorly into the ischioanal fossa. The needle was then directed lateral to the levator muscles with the guidance of the surgeon palpating the instrument, initially through the vagina, and then through the post anal incision(s). The procedure was repeated on the contralateral side. A 2-cm wide polypropylene mesh was positioned under the anorectum, and the arms of the sling were brought up through the medial thigh incisions after loading the sutures attached to the sling arms onto the notch located near the end of the introducer needle. Tension on the arms of the sling was then adjusted by gently elevating the sling arms while the surgeon's index finger was placed in the rectum. The plastic sleeves were then removed from the sling while the surgeon's finger was still in the rectum. The post anal incision(s) were vigorously irrigated and closed with delayed absorbable suture. See Figures 1 and 2.



Figure 1



Figure 2

Results

Fecal incontinence diary data were available from the first 8 patients, although a baseline diary was not submitted by 1 of these patients. At 6 weeks post-operatively, the average number of incontinence episodes and incontinent days decreased after surgery overall. Notably, 2 patients reported complete continence.

One postoperative complication, a wound infection with separation of the postanal incision and mesh exposure, resulted in sling removal. Another patient had persistent fecal incontinence and had a revision of the sling five months after the index surgery.

FIQOL data was obtained from most patients (see Table 1). The data indicates an improvement in symptoms for all four categories addressed (the FIQOL is composed of 29 items divided into 4 sections; low scores indicating a poor quality of life) [2].

Table 1

FIQOL	Lifestyle	Coping/Behavior	Depression/ Self Perception	Embarrassment
PreOperative (n=13)	2.71 ± 0.88	1.80 ± 0.67	2.67 ± 0.79	1.37 ± 0.46
6 wks Post Operative (n=11)	3.35 ± 0.76, p=0.0285	2.66 ± 1.06, p=0.0267	3.39 ± 0.83, p=0.0541	2.67 ± 1.10, p=0.0012
12wks Post Operative (n=6)	3.58 ± 0.53, p=0.2735	2.87 ± 0.84, p=0.0095	3.50 ± 0.48, p=0.0093	2.70 ± 0.77, p=0.0133
6 mos Post Operative (n=7)	3.39 ± 0.85, p=0.4631	2.82 ± 0.88, p=0.1128	3.22 ± 1.11, p=0.1035	2.78 ± 1.22, p=0.1117
1 year Post Operative (n=6)	3.58 ± 0.44, p=0.0592	2.63 ± 0.93, p=0.0996	2.96 ± 0.82, p=0.2044	2.56 ± 0.72, p=0.0143

Interpretation of results

Given that this was a retrospective analysis, we were not able to get definitive and long term data for the actual incidents of bowel accidents, but the FIQOL data shows improvement in all four categories.

Concluding message

This is a preliminary study that looked at the outcome of the post-anal sling retrospectively. Given the current limited surgical options available to patients with fecal incontinence, we are optimistic that the post-anal sling will provide an effective, minimally-invasive option for our patients. More data is necessary and there is currently a prospective, multicenter trial on this procedure underway that will hopefully provide more conclusive evidence regarding the safety and efficacy of this novel technique.

References

1. Dis Colon Rectum (2004) 47:1982-198.
2. Dis Colon Rectum (2000) 43:9-16.

<i>Specify source of funding or grant</i>	None
<i>Is this a clinical trial?</i>	No
<i>What were the subjects in the study?</i>	HUMAN
<i>Was this study approved by an ethics committee?</i>	Yes
<i>Specify Name of Ethics Committee</i>	Mount Auburn Hospital Institutional Review Board
<i>Was the Declaration of Helsinki followed?</i>	Yes
<i>Was informed consent obtained from the patients?</i>	Yes