



Is Sacral Neuromodulation Effective in Women with Prior Prolapse Repair?

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Background

- Overactive bladder (OAB) symptoms frequently occur in women with pelvic organ prolapse (POP), with a prevalence as high as 88%
- OAB in women with POP is believed to be related to a prolapsed anterior vaginal wall resulting in an abnormal position of the bladder trigone
- Treatment of POP (surgery, pessary) gives some improvement in OAB complaints, however OAB symptoms can persist in 50% of women
- Increased severity of POP is a risk factor for persistent OAB symptoms after surgery for POP
- Sacral neuromodulation (SNS) is an effective third line therapy for patients with refractory OAB
- SNS's efficacy following POP repair is not well described
- Aim: Determine the efficacy of SNS in women with refractory OAB who have undergone prior anterior and/or apical POP repair**

Methods

- Retrospective review from a single institution of all SNS lead placements in women from 1998 to 2017
- Women with prior anterior and/or apical POP repair were compared to women without prior POP repair
- POP repair group excluded patients who did not have repair of anterior and/or apical compartment
- Primary outcome:** Efficacy of SNS, defined as 50% improvement in voiding diary parameters with progression to pulse generator implantation (stage 2 SNS)
- Secondary outcomes:** Device explanation rates and need for subsequent therapy

Results

- Of 234 patients who underwent SNS, 37 (16%) had a prior anterior and/or apical POP repair
- Compared to patients without prior POP repair, patients with prior POP repair:
 - Were significantly older (67 vs 59 yo, $p=0.01$) and more likely to have a history of myocardial infarction (14% vs 3%, $p=0.01$)
 - Had no significant difference in BMI, race, smoking status, and other comorbidities including diabetes, stroke, and cardiovascular disease
- Mean duration of follow up was similar between the two groups (3.2 vs. 3.5 years, $p=0.73$), defined as time between stage 1 SNS and last clinic visit
- Subjects in prior POP repair group did not differ in progression to stage 2 SNS (73% vs 66%, $p=0.45$), revision surgery (11% vs 11%, $p=0.95$), explantation rates (14% vs 17%, $p=0.81$), or need for subsequent therapies (Table 1)

Table 1: Postoperative Outcomes

Postoperative Outcomes	Prior POP Repair (n=37)	No Prior POP Repair (n=197)	p value
Progression to Stage 2	27 (73%)	130 (66%)	0.45
Revision Surgery	4 (11%)	22 (11%)	0.95
Revision Indication			
Battery exchange	1 (3%)	12 (6%)	0.69
Other (pain, lead migration, wire extrusion)	3 (8%)	10 (5%)	0.44
Explantation Rate	5 (14%)	33 (17%)	0.81
Explantation Indication			
Poor function	2 (5%)	21 (11%)	0.55
Infection	2 (5%)	4 (2%)	0.24
MRI imaging	1 (3%)	1 (1%)	0.29
Extrusion/malfunction	0 (0%)	3 (2%)	0.85
Pain	0 (0%)	3 (2%)	0.45
Subsequent Therapies			
Any Therapy	12 (32%)	59 (30%)	0.85
Oral OAB Medication	11 (30%)	36 (18%)	0.12
OnabotulinumtoxinA	7 (19%)	32 (16%)	0.64
PTNS	0 (0%)	1 (1%)	0.66
Physical Therapy	1 (3%)	2 (1%)	0.40

Conclusions

- SNS is as effective in women with refractory OAB who have undergone prior anterior and/or apical POP repair as it is in women who have not undergone prior POP repair
- Women who have previously had POP repair are not at greater risk of sequelae after SNS
- 30% of women required additional OAB therapy after SNS regardless of prior anterior and/or apical POP repair status
- SNS is a reasonable third-line treatment option for women with refractory OAB symptoms who have had prior anterior and/or apical POP repair**

Future Directions

- Prospective study comparing efficacy of SNS by stage of POP in those with treated vs. untreated POP
- Evaluation of risk factors associated with de novo OAB symptoms following POP repair
- Evaluation of the efficacy of additional third line therapies in women with refractory OAB and POP

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