Treatment success of polyacrylamide hydrogel urethral bulking (PAHG) is less than 40% at medium-term follow-up

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Background:

- Urethral bulking with polyacrylamide hydrogel (PAHG) is an alternative to mesh-based mid-urethral slings and other procedures for stress urinary incontinence (SUI)

Primary Aim:
Determine the success rate of PAHG urethral bulking for SUI treatment in patients at a medium-term follow-up interval (1 to 3 years).

Methods:

- Cross-sectional study of 112 adult women at 3 tertiary US health centers
- Surveys were distributed between 1-3 years following treatment to ascertain success

What defined treatment success?

1. No procedural retreatment for SUI
2. Score of 3 or less on PGI-I (at least "better"
3. Would choose procedure again
4. 75% or greater symptom improvement
5. Score of 0, 1, or 2 on SUI specific UDI-6 question

Implications:

- Patient's undergoing PAHG as primary SUI should receive realistic counseling on treatment success and need for additional therapies

Results:

- Survey completion median of about 2 years with 34% of participants having treatment success
- Retreatment rates with any anti-incontinence procedure were 29%
- Success more likely in patients using HRT or vaginal estrogen

Table 1: Baseline characteristics of all participants that completed survey since polyacrylamide hydrogel (PAHG) urethral bulking procedure and comparison between those with and without improvement in stress urinary incontinence symptoms. ***Improvement defined objectively (no retreatment) and subjectively with 4 survey measures including PGI-I and UDI-6.***

	Total Participants N=112	Treatment Failure N = 74	Treatment Success N = 38	P Value
Time to survey in months – Median (IQR)	24.3 (8.8-41.1)	24.8 (9.1-37.8)	24.0 (8.8-41.1)	0.641
Age – Mean (SD)	58.7 (14.2)	57.3 (15.3)	61.3 (11.6)	0.157
Body mass index – Mean (SD)	30.3 (7.8)	31.0 (8.4)	28.8 (6.3)	0.292
Parity – Mean (SD)	1.9 (1.1)	2.9 (2.4)	2.1 (1.0)	0.514
Mixed incontinence symptoms – N (%)	72 (64)	49 (66)	23 (60)	0.699
Preoperative comorbidities - N (%)				
Postmenopausal	75 (67)	47 (63.5)	28 (73.7)	0.134
Hormone replacement therapy (systemic)	11 (9.8)	3 (4.1)	8 (21.1)	0.012
Vaginal estrogen therapy	20 (18)	9 (12.2)	11 (28.9)	0.045
Current or former smoker	43 (38)	28 (37.8)	15 (39.5)	0.771
History of pelvic cancer	8 (7.1)	6 (8.1)	2 (5.3)	0.897
History of any cancer radiation treatment	11 (9.8)	11 (14.9%)	0 (0)	0.032

Table 2: PAHG urethral bulking outcomes by procedure location.

	Total N=112	Operating room N=62	Outpatient/clinic N=50	P Value
Treatment Success – N (%)	38 (33.9)	22 (57.9)	16 (42.1)	0.852
Overall SUI retreatment rate – N (%)	32 (28.6)	18 (29.0)	14 (28.0)	1.0
Retreatment with Urethral bulking – N (%)	22 (19.6)	12 (19.4)	10 (20.0)	1.0