

Minimally Invasive Treatment of Female Stress Urinary Incontinence with Polyacrylamide Hydrogel (Bulkamid®): Outcomes of a Contemporary Turkish Cohort Including Cases with Mixed Urinary Incontinence and Previously Failed SUI Surgery

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Introduction

- Urethral bulking agents regained popularity in the treatment of female stress urinary incontinence (SUI) owing to their minimally invasive nature and favorable safety profile in the era of mesh-related concerns.
- The aim of this study is to describe the treatment outcomes and patient satisfaction rates of Polyacrylamide hydrogel (PAHG) (Bulkamid®) injection for the treatment of female SUI in our cohort

Methods

- Data of 21 female patients who underwent transurethral PAHG injection in the **primary** or **secondary** setting between December 2019 and March 2023 due to **SUI** or **stress-predominant mixed urinary incontinence (MUI)** were retrospectively evaluated.
- All patients had invasive urodynamic studies prior to operation. All had urodynamic stress urinary incontinence.
- In all patients, a total of 2 cc PAHG was injected at 4 different sites on bladder neck-urethral junction.

The primary outcome -treatment success-

No pad use, negative ICS uniform CST and declaration of no SUI on ICIQ-SF question 6.

The secondary outcome -patient satisfaction-

Patient-reported definition of post-injection continence status on a phone interview

Results

- At a median follow-up of 17 (1-38) months,
 - Overall **treatment success** rate was **85.7%**.
 - Patient satisfaction** rate was **90%**
- We detected higher objective and subjective cure rates in stress-predominant MUI. This might be a reflection of small sample size (13 pure SUI vs 8 MUI).
- Eight patients had ALPPs below 60 cmH2O on preoperative invasive UDS. Regardless of being in the primary or secondary setting or having pure SUI or stress-predominant MUI, treatment success was 100% in these women with



Figure 1. Proprietary system, bladder neck before and after hydrogel injection. Figure 1A. Proprietary system Figure 1B. Pre-injection Figure 1C. Post-injection

	Treatment Success* (n, %)	Patient Satisfaction** (n, %)
Total	18/21, 85.7	18/20, 90
Urethral mobility		
Hypermobile	7/8, 87.5	7/7, 100%
Decreased mobility	2/3, 66	2/3, 66%
Immobile	9/10, 90	9/10, 90
ALPP <60 cmH2O	8/8, 100	8/8, 100%
Immobile urethra + ALPP <60 cmH2O	5/5, 100	5/5, 100
Primary	15/17, 88.2	15/16, 93.6
Secondary	3/4, 75	3/4, 75
Pure SUI	12/15, 80	12/14, 85.7
Stress-predominant MUI	6/6, 100	6/6, 100
Primary	15/17, 88.2	15/16, 93.6
Pure SUI	11/13, 84.6	11/12, 91.6
Urethral Mobility		
Hypermobile	6/7, 85.7	6/6, 100
Decreased mobility	1/2, 50	1/2, 50
Immobile	4/4, 100	4/4, 100
ALPP <60 cmH2O	5/5, 100%	5/5, 100%
Stress-predominant MUI	4/4, 100	4/4, 100
Urethral Mobility		
Hypermobile	1/1, 100	1/1, 100
Decreased mobility	-	-
Immobile	3/3, 100	3/3, 100
ALPP <60 cmH2O	1/1, 100	1/1, 100
Secondary	3/4, 75	3/4, 75
Pure SUI	1/2, 50	1/2, 50
Urethral mobility		
Hypermobile	-	-
Decreased mobility	1/1, 100	1/1, 100
Immobile	0/1, 0	0/1, 0
ALPP <60 cmH2O	1/1, 100	1/1, 100
Stress-predominant MUI	2/2, 100	2/2, 100
Urethral mobility		
Hypermobile	-	-
Decreased mobility	-	-
Immobile	2/2, 100	2/2, 100
ALPP <60 cmH2O	1/1, 100	1/1, 100

Conclusions

- In a contemporary female Turkish cohort with a short-term follow-up, PAHG injection proved to be a safe and effective minimally invasive treatment option for pure stress and stress-predominant mixed UI in both primary and secondary settings