

Treatment Outcome and Predictive Factor for Successful Results of Transurethral Incision of the Bladder Neck in Women with Neurogenic or Non-neurogenic Voiding Dysfunction

KEY FINDING:

- Efficacy: TUI-BN success rises from 49.6% to 61.0% with sequential VUDS guidance.
- Predictors: Detrusor underactivity (DU) is a negative predictor, yet >50% maintain satisfactory voiding.
- Management: Repeat VUDS is essential to diagnose concomitant sphincter issues and guide precise salvage therapy.



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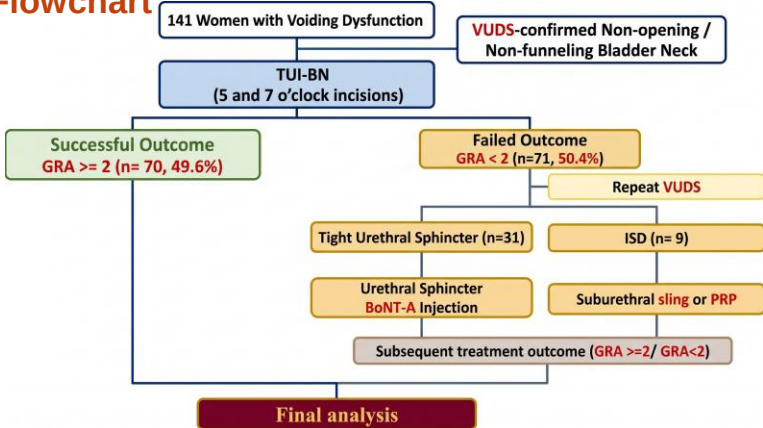
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Background

- Female voiding dysfunction has diverse etiologies, including detrusor underactivity and bladder outlet dysfunction.
- VUDS can identify bladder neck dysfunction, characterized by a tight or non-funneling bladder neck.

Study Aim Evaluated TUI-BN outcomes and predictors of treatment success in women with neurogenic or non-neurogenic voiding dysfunction.

Flowchart



Patient Characteristics & Results

	Overall	GRA ≥ 2	GRA < 2	P-value
Patients, n (%)	141 (100%)	86 (61.0%)	55 (39.0%)	
Age (years)	66.7±14.6	68.2±14.2	64.3±15.1	0.127
VUDS diagnoses				
DU	83 (58.9%)	45 (52.3%)	38 (69.1%)	0.010
BND	86 (61.0%)	54 (64.3%)	32 (64.0%)	0.973
PRES/DV	17 (12.1%)	11 (13.1%)	6 (12.%)	0.854
Post-TUI-BN treatment				
Urethral BoNT-A injection	31 (22.0%)	9 (10.5%)	22 (40.0%)	<0.001
Suburethral sling or PRP	9 (6.4%)	7 (8.1%)	2 (3.6%)	0.482
CNS disease	47 (33.3%)	27 (31.4%)	20 (36.4%)	0.542

Key Findings

- TUI-BN achieved an initial success rate of **49.6% (70/141)**, which increased to **61.0% (86/141)** after subsequent VUDS-guided treatment.
- DU was more common** in the final failure group (69.1% vs. 52.3%, P = 0.010), whereas surgical history and CNS disease were not significantly associated with final outcome.

Variable in baseline	univariable		Multivariable	
	Odds ratio (95% CI)	p-value	Odds ratio (95% CI)	p-value
Age	1.018 (0.995-1.042)	0.129	1.018 (0.993-1.043)	0.169
FSF	1.000 (0.996-1.003)	0.897	-	-
FS	1.001 (0.996-1.003)	0.718	-	-
US	1.000 (0.997-1.003)	0.895	-	-
Compliance	1.003 (0.998-1.003)	0.225	1.004 (0.999-1.010)	0.136
Pdet	1.006 (0.994-1.018)	0.356	-	-
Qmax	1.070 (0.982-1.166)	0.123	0.962 (0.833-1.110)	0.593
Vol	1.005 (1.001-1.009)	0.028	1.003 (0.996-1.011)	0.362
PVR	0.998 (0.996-1.000)	0.030	0.999 (0.997-1.001)	0.396
Pves	1.001 (0.993-1.010)	0.777	-	-
Pabd	0.999 (0.991-1.007)	0.847	-	-
DU	0.364 (0.167-0.793)	0.011	0.440 (0.178-1.085)	0.074
BND	1.012 (0.488-2.101)	0.973	-	-
DV/PRES	1.105 (0.382-3.198)	0.854	-	-
Spine surgery	0.649 (0.264-1.594)	0.345	-	-
Pelvic surgery	1.240 (0.595-2.583)	0.565	-	-
Sling	0.631 (0.086-4.615)	0.650	-	-
AE	1.070 (0.245-4.668)	0.928	-	-
CNS	0.801 (0.392-1.633)	0.542	-	-

Summary & Clinical Takeaways

- TUI-BN Success Rate:** Initial success of 49.6% improved to 61.0% with subsequent VUDS-guided interventions.
- Predictor of Outcome:** Detrusor underactivity (DU) is a negative predictor, though >50% of DU patients still void satisfactorily.
- Management for Failure:** For persistent dysfunction, repeat VUDS is crucial to identify concomitant sphincter issues and guide precise salvage therapy.