

Supplementary Materials

Table S1. PICOTS (Population, Intervention, Comparators, Outcomes, Timing, and Setting) format.

Population	Age: >40 yrs. Diagnoses: moderate/severe Lower Urinary Tract Symptoms (LUTS) due to Benign Prostate Enlargement (BPE) and lack of efficacy, intolerance, or poor compliance to previous medical therapies.
Interventions	Transperineal Laser Ablation (TPLA) for Benign Prostatic Enlargement
Comparators	None
Outcomes	Improvement in urodynamic parameters (maximum urinary flow (Q_{max}) and postvoiding residue (PVR)) Symptom relief (IPPS, International Prostatic Symptoms Score questionnaire) Preservation of ejaculatory function (MSHQ-EjD, Male Sexual Health Questionnaire-Ejaculatory Dysfunction) Complication rates
Type of studies	Prospective or retrospective studies including more than 20 patients
Timing and setting	Any timepoint and setting

Table S2. Level of evidence for the evaluated studies according to GRADE and Oxford systems, and quality of the studies assessed with Newcastle-Ottawa scale.

Study ID	Year	Level of Evidence According to:		Quality
		Grade System	Oxford System	
Pacella et al., Prostate Cancer and Prostatic Disease	2019	2	2b	5
De Rienzo et al., European Urology	2021	2	2b	6
Cai et al., Acta Radiologica	2021	2	2b	6
Manenti et al., European Radiology Experimental	2021	2	2b	6
Frego et al., World Journal of Urology	2021	2	2b	5
Sessa et al., Urology Video Journal	2022	2	2b	5

Table S3. Summary of rates and type of complications or sequelae and associated management in patients treated with transperineal laser ablation (TPLA) for benign prostatic enlargement (BPE) in the six included studies.

Study	N	Type and Number of Complications	Management	Complication Rate	Clavien–Dindo
Pacella et al., Prostate Cancer and Prostatic Disease, 2019	160	3—transient hematuria	None	1.9%	I
		3—acute urinary retention	Bladder catheter for 15 days	1.9%	I
		1—orchitis	Antibiotic	0.6%	II
		1—prostatic abscess	Antibiotic and percutaneous drainage	0.6%	IIIa
De Rienzo et al., European Urology, 2021	21	1—prostatic abscess	Antibiotic and percutaneous drainage	4.8%	IIIa
Cai et al., Acta Radiologica, 2021	20	1—Intraoperative urethral burn	Bladder catheter for 25 days	5.0%	I
Manenti et al., European Radiology Experimental, 2021	44	1—prolonged hematuria	Bladder catheter for 7 days	2.2%	I
		1—orchitis (ATB)	Antibiotic	2.2%	II
		1—prostatic abscess	Antibiotic and percutaneous drainage	2.2%	IIIa
Frego et al., World Journal of Urology, 2021	22	8—dysuria spontaneously resolved	None	36.4%	I
		3—acute urinary retention	Bladder catheter for 7 days	13.6%	I
		2—urinary tract infection	Hospitalization and antibiotic	9.0%	II
Sessa et al., Urology Video Journal, 2022	30	NR	NR	NR	NR

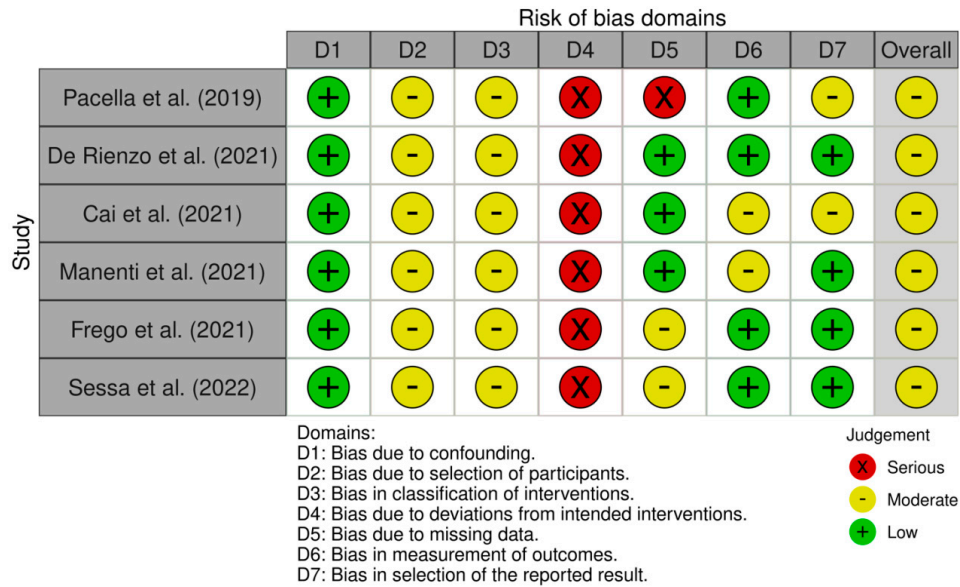
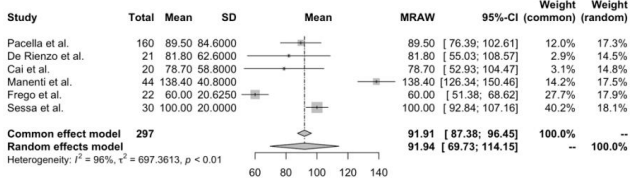
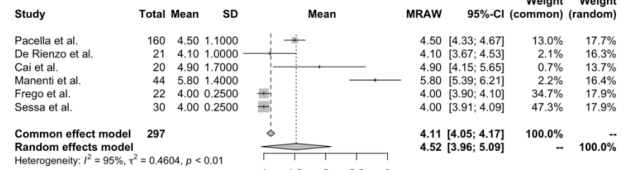


Figure S1. Risk of bias summary showing review authors' judgments about each risk of bias item for each included study.

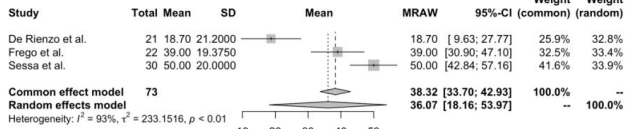
Baseline PVR



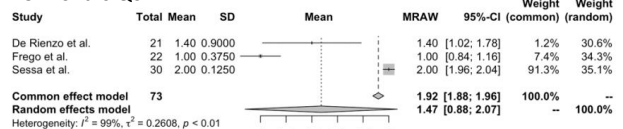
Baseline QoL



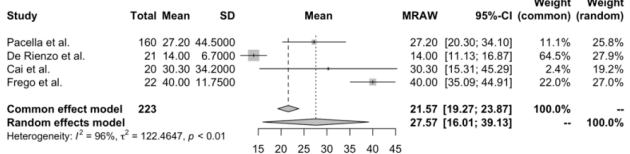
3-months PVR



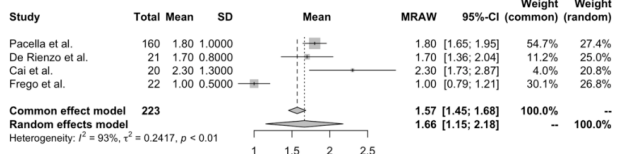
3-months QoL



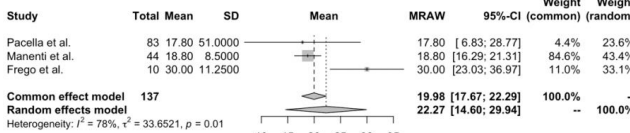
6-months PVR



6-months QoL



12-months PVR



12-months QoL

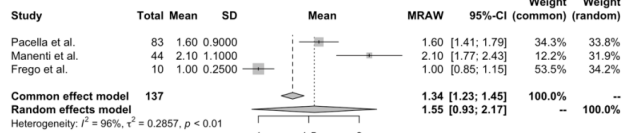


Figure S2. Forest plots illustrating the pooled mean and 95% confidence interval (CI) for postvoiding residue (PVR) and quality of life (QoL) at baseline and during follow-up.

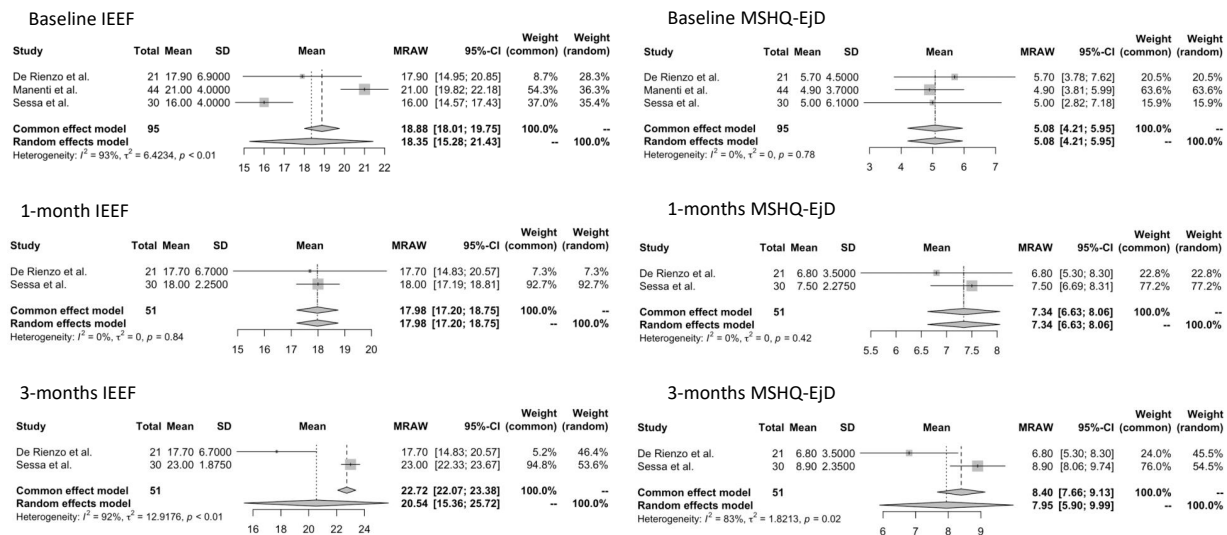


Figure S3. Forest plots illustrating the pooled mean and 95% confidence interval (CI) for International Index of Erectile Function (IIEF-5) and Male Sexual Health Questionnaire-Ejaculatory Dysfunction (MSHQ-EjD) at baseline and during follow-up.