

Differential Changes Across Sexual Function Domains After Urethroplasty: A Prospective Study

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Abstract

Objective

To assess changes in sexual function six months after urethroplasty using the 15-item International Index of Erectile Function (IIEF-15) and to examine associations with age, stricture length, and surgical technique.

Materials and Methods

Patients undergoing urethroplasty between August 2024 and August 2025 were assessed preoperatively and six months postoperatively. Patients were stratified by age (< 60 vs. ≥ 60 years), urethroplasty technique (anastomotic vs. augmentation), and stricture length (< 2 vs. ≥ 2 cm). Changes in IIEF domains were evaluated, and multivariable linear regression was performed.

Results

Among 56 patients with complete paired assessments, the mean age was 52.79 years, and the median stricture length was 2.00 cm. At six months, erectile function decreased from 24.25 to 18.68 ($p < 0.001$), intercourse satisfaction from 12.30 to 9.13 ($p < 0.001$), and sexual desire from 8.00 to 7.52 ($p = 0.013$). After adjustment, age ≥ 60 years was associated with a greater decline in erectile function (coefficient = -6.10; $p < 0.001$). Augmentation urethroplasty was associated with a more favorable change in intercourse satisfaction than anastomotic urethroplasty (coefficient = 4.04; $p < 0.001$). Stricture length was not independently associated with changes in any IIEF domain.

Conclusion

Urethroplasty was associated with domain-specific changes in sexual function at six months. Older age was associated with a greater decline in erectile function, whereas augmentation urethroplasty was associated with more favorable intercourse-satisfaction outcomes. Larger multicenter studies with longer follow-up are warranted.

INTRODUCTION

Male urethral stricture is characterized by scarring of the urethral epithelium and corpus spongiosum, resulting in narrowing of the urethral lumen. Its causes include iatrogenic injury, trauma, infection, inflammatory disease, and idiopathic fibrosis [1–3]. Urethroplasty is the definitive reconstructive treatment for many recurrent or complex strictures and provides durable anatomic patency when appropriately selected [4]. Nevertheless, an anatomically successful reconstruction does not necessarily capture outcomes that matter most to patients, particularly sexual function.

The IIEF is a validated multidimensional instrument that evaluates erectile function, intercourse satisfaction, orgasmic function, sexual desire, and overall satisfaction [5]. Most urethroplasty studies have used the abbreviated five-item erectile function instrument (IIEF-5) or reported only selected IIEF domains [6]. Consequently, changes in intercourse satisfaction and sexual desire remain less well described, particularly in Southeast Asian populations. This study aimed to evaluate preoperative and six-month postoperative changes across all five IIEF-15 domains among men undergoing urethroplasty at a high-volume center in Vietnam.

MATERIALS AND METHODS

Study design and setting

This prospective observational study was approved by the Biomedical Research Ethics Committee of Pham Ngoc Thach University of Medicine (approval number 1234), and reviewed 93 male patients who underwent urethroplasty at Binh Dan Hospital from August 2024 to August 2025. Out of these, 83 patients were eligible, and data from 56 patients on the International Index of Erectile Function were collected. Eligible participants were male patients with a clinical need for urethroplasty who agreed to participate and completed the study questionnaires. Patients were excluded for reasons such as inability to cooperate, recurrent urethral strictures, pre-existing erectile dysfunction, or incomplete postoperative follow-up (see Figure 1).

Figure 1. Patient selection flow chart from August 2024 to August 2025

Among 93 patients undergoing urethroplasty between August 2024 and August 2025, 56 patients with complete preoperative and postoperative IIEF data were included in the final analysis after excluding recurrent strictures, incomplete data, and missing IIEF data.

Clinical assessment and urethroplasty

Stricture anatomy was assessed using retrograde urethrography, voiding cystourethrography, or combined endoscopic and radiographic evaluation [7]. The operative approach was selected according to the structural characteristics and the surgeon's judgment. Procedures were categorized as anastomosis or augmentation urethroplasty (buccomucosa graft or penile skin flap).

Assessment of Erectile Function

The validated Vietnamese version of the full 15-item International Index of Erectile Function questionnaire was administered before surgery and again at a six-month follow-up. The five prespecified domains were calculated using the standard item structure: erectile function (items 1-5 and 15; score range 1-30), intercourse satisfaction (items 6-8; range 0-15), orgasmic function (items 9-10; range 0-10), sexual desire (items 11-12; range 2-10), and overall satisfaction (items 13-14; range 2-10) [5]. Higher scores indicate better function. We defined and categorized three key factors potentially associated with

each domain: (1) age (<60 or ≥ 60 years old), (2) stricture length (<2 or ≥2 cm), and (3) urethroplasty technique (end-to-end anastomotic, oral mucosal graft urethroplasty, or penile skin flap urethroplasty).

Statistical analysis

Data were presented as means and standard deviations for continuous variables, and as counts with percentages for categorical variables. The t-test assessed independence for continuous variables, while Pearson's chi-square test was used for categorical variables. Preoperative and postoperative scores were compared using the paired-samples t-test for normally distributed differences, or the Wilcoxon signed-rank test otherwise. For independent groups, either the Student's t-test or the Mann-Whitney U test was applied as appropriate. Statistical significance was set at a P-value of less than 0.05, with all P-values reported as two-sided. Five exploratory multivariable linear regression models were fitted, one for each IIEF-15 domain, using the 6-month postoperative minus preoperative score as the dependent variable; age ≥60 years, stricture length ≥2 cm, and augmentation urethroplasty were entered as predictors, with age <60 years, stricture length <2 cm, and anastomotic urethroplasty as reference categories, respectively, and β coefficients with 95% confidence intervals and two-sided p-values were reported.

RESULTS

Patient characteristics

Table 1 presents the characteristics of the patients included in the analysis. A total of 56 patients who underwent urethroplasty were evaluated. The mean age of this study population was 52.79 ± 13.68 years. Among these patients, 34 (60.7%) were younger than 60 years, while 22 (39.3%) were aged 60 years or older. The median length of the urethral stricture was 2.00 cm, with an interquartile range of 1.00–2.63 cm. In terms of stricture length categories, 25 patients (44.6%) had strictures measuring less than 2 cm, and 31 patients (55.4%) had strictures measuring 2 cm or more. Concerning the anatomical location, bulbar or membranous urethral strictures were the most common, accounting for 41 cases (73.2%), whereas penile urethral strictures were noted in 15 patients (26.8%). Anastomotic urethroplasty was the most frequently performed surgical technique, carried out in 39 procedures (69.6%), while 17 patients (30.4%) underwent augmentation urethroplasty.

Table 1. General characteristics of the study population (n=56)

Characteristic	Summary statistic	n (%)
Age, years	52.79 ± 13.68	
Stricture length, cm (median)	2.00 [1.00 - 2.63]	
Age group		
<60 years		34 (60.7)
≥60 years		22 (39.3)
Stricture site		
Penile urethra		15 (26.8)
Bulbar/membranous urethra		41 (73.2)
Urethroplasty technique		
Anastomotic urethroplasty		39 (69.6)
Augmentation urethroplasty		17 (30.4)
Stricture-length group		
<2 cm		25 (44.6)
≥2 cm		31 (55.4)

Changes in IIEF-15 domains

At the six-month postoperative assessment, significant reductions were observed in three of the five domains of the IIEF-15. The mean erectile function score decreased from 24.25 ± 3.32 preoperatively to 18.68 ± 5.04 postoperatively, reflecting a mean reduction of 5.57 points ($p < 0.001$). Intercourse satisfaction also declined significantly, with a preoperative mean score of 12.30 ± 1.16 dropping to a postoperative mean score of 9.13 ± 2.59 ($p < 0.001$). Similarly, the mean sexual desire score decreased from 8.00 ± 1.28 before surgery to 7.52 ± 1.03 at the six-month mark, and this difference was statistically significant ($p = 0.013$). In contrast, no statistically significant changes were observed in orgasmic function or overall satisfaction. The mean orgasmic function score decreased slightly from 7.98 ± 1.12 to 7.73 ± 1.17 ($p = 0.316$), while the mean overall satisfaction score dropped from 7.89 ± 1.32 to 7.48 ± 1.18 ($p = 0.080$) (see Table 2).

Table 2. Preoperative and six-month postoperative scores across all five IIEF-15 domains

IIEF	Preoperative	Postoperative	P value
	Mean $\pm$ SD (Median)	Mean $\pm$ SD (Median)	
Erectile function	24,25 $\pm$ 3,32 (25.0)	18,68 $\pm$ 5,04 (19.0)	<0.001^{a1}
Intercourse satisfaction	12,30 $\pm$ 1,16 (12.0)	9,13 $\pm$ 2,59 (8.5)	<0.001^{a2}
Orgasmic function	7,98 $\pm$ 1,12 (8.0)	7,73 $\pm$ 1,17 (8.0)	0.316 ^{a2}
Sexual desire	8,00 $\pm$ 1,28 (8.0)	7,52 $\pm$ 1,03 (7.0)	0.013 ^{a2}
Overall satisfaction	7,89 $\pm$ 1,32 (8.0)	7,48 $\pm$ 1,18 (7.0)	0.080 ^{a2}

^{a1} = paired-samples t-test. ^{a2} = Wilcoxon signed-rank test.

IIEF: International Index of Erectile Function

Outcomes according to age

Among patients aged 59 or younger, the mean score fell from 24.88 $\pm$ 3.25 to 21.68 $\pm$ 3.42 ($p < 0.001$). In contrast, patients older than 60 experienced a more substantial decline, with scores decreasing from 23.27 $\pm$ 3.25 to 14.05 $\pm$ 3.33 ($p < 0.001$). Preoperative scores did not differ significantly between groups ($p = 0.070$), whereas postoperative scores were significantly lower in the older cohort ($p < 0.001$). Intercourse satisfaction also decreased significantly across both groups (both $p < 0.001$), with no postoperative differences ($p = 0.697$). Orgasmic function showed no significant changes between the age groups. Significant reductions in sexual desire and overall satisfaction occurred only in patients aged 60 years or younger, with sexual desire decreasing from 8.41 $\pm$ 1.08 to 7.56 $\pm$ 1.05 ($p = 0.002$) and overall satisfaction from 8.29 $\pm$ 1.06 to 7.59 $\pm$ 1.23 ($p = 0.020$). These differences were not observed in the older group. Preoperatively, the younger group had higher scores for both domains (both $p = 0.005$), but these differences were not present after surgery (see Table 3).

Table 3. Preoperative and postoperative IIEF-15 domain scores within and between age groups

IIEF	Age groups		P value
	<60 years (n=34)	≥60 years (n=22)	
	Mean ± SD (median)	Mean ± SD (median)	
Erectile function			
Preoperative	24.88 ± 3.25 (25.5)	23.27 ± 3.25 (24.5)	0.070 ^{b1}
Postoperative	21.68 ± 3.42 (21.0)	14.05 ± 3.33 (14.0)	<0.001 ^{b2}
Preop-postop p	<0.001 ^{c1}	<0.001 ^{c1}	
Intercourse satisfaction			
Preoperative	11.94 ± 1.10 (12.0)	12.86 ± 1.04 (13.0)	0.003 ^{b1}
Postoperative	9.18 ± 2.49 (8.0)	9.05 ± 2.79 (9.0)	0.697 ^{b1}
Preop-postop p	<0.001 ^{c2}	<0.001 ^{c1}	
Orgasmic function			
Preoperative	8.09 ± 1.19 (8.0)	7.82 ± 1.01 (8.0)	0.390 ^{b1}
Postoperative	7.94 ± 1.07 (8.0)	7.41 ± 1.26 (7.0)	0.129 ^{b1}
Preop-postop p	0.553 ^{c2}	0.329 ^{c1}	
Sexual desire			
Preoperative	8.41 ± 1.08 (9.0)	7.36 ± 1.33 (8.0)	0.005 ^{b1}
Postoperative	7.56 ± 1.05 (7.5)	7.45 ± 1.01 (7.0)	0.721 ^{b1}
Preop-postop p	0.002 ^{c2}	0.809 ^{c1}	
Overall satisfaction			
Preoperative	8.29 ± 1.06 (9.0)	7.27 ± 1.45 (7.5)	0.005 ^{b1}
Postoperative	7.59 ± 1.23 (7.5)	7.32 ± 1.09 (7.0)	0.457 ^{b1}
Preop-postop p	0.020 ^{c2}	0.911 ^{c1}	

^{b1} = Mann-Whitney U test; ^{b2} = Independent-samples t-test; ^{c1} = paired-samples t test; ^{c2} = Wilcoxon signed-rank test.

IIEF: International Index of Erectile Function

Outcomes according to the stricture length

Table 4 presents the outcomes based on stricture length. For patients with strictures of < 2 cm, the average erectile function score decreased from 23.76 ± 3.29 to 17.80 ± 4.92 ($p < 0.001$). Similarly, for those with strictures of 2 cm or more, the score decreased from 24.65 ± 3.33 to 19.39 ± 5.10 ($p < 0.001$). Notably, there were no significant differences in erectile function between the two groups either before ($p=0.274$) or after surgery ($p=0.243$). Intercourse satisfaction also declined significantly in both groups after surgery (both $p<0.001$), although preoperative satisfaction scores were comparable ($p=0.438$). At the six-month follow-up, patients with strictures of 2 cm or greater reported significantly higher satisfaction compared to those with strictures less than 2 cm (10.06 ± 2.54 vs. 7.96 ± 2.17 ; $p=0.002$). No significant changes in orgasmic function were observed in either group ($p=0.900$ and $p=0.159$), and while there were no significant shifts in sexual desire, reductions approached significance for both groups. Overall satisfaction significantly decreased for those with strictures under 2 cm, falling from 8.08 ± 1.44 to 7.04 ± 0.98 ($p=0.011$). In contrast, the ≥ 2 cm group showed no significant change in overall satisfaction ($p=0.783$).

Table 4. Preoperative and postoperative IIEF-15 domain scores within and between stricture-length groups

IIEF	Length of stenosis		P value
	<2 cm (n=25)	≥2 cm (n=31)	
	Mean ± SD (median)	Mean ± SD (median)	
Erectile function			
Preoperative	23.76 ± 3.29 (24.0)	24.65 ± 3.33 (25.0)	0.274 ^{b1}
Postoperative	17.80 ± 4.92 (18.0)	19.39 ± 5.10 (20.0)	0.243 ^{b2}
Preop-postop p	<0.001 ^{c1}	<0.001 ^{c1}	
Intercourse satisfaction			
Preoperative	12.16 ± 1.18 (12.0)	12.42 ± 1.15 (12.0)	0.438 ^{b1}
Postoperative	7.96 ± 2.17 (7.0)	10.06 ± 2.54 (10.0)	0.002 ^{b1}
Preoperative-postoperative p	<0.001 ^{c2}	<0.001 ^{c1}	
Orgasmic function			
Preoperative	7.72 ± 1.10 (8.0)	8.19 ± 1.11 (8.0)	0.103 ^{b1}
Postoperative	7.76 ± 1.09 (8.0)	7.71 ± 1.24 (8.0)	0.919 ^{b1}
Preop-postop p	0.900 ^{c1}	0.159 ^{c2}	
Sexual desire			
Preoperative	7.96 ± 1.57 (8.0)	8.03 ± 1.02 (8.0)	0.779 ^{b1}
Postoperative	7.36 ± 1.08 (7.0)	7.65 ± 0.98 (8.0)	0.292 ^{b1}
Preop-postop p	0.079 ^{c2}	0.075 ^{c2}	
Overall satisfaction			
Preoperative	8.08 ± 1.44 (9.0)	7.74 ± 1.21 (8.0)	0.159 ^{b1}
Postoperative	7.04 ± 0.98 (7.0)	7.84 ± 1.21 (8.0)	0.014 ^{b1}
Preop-postop p	0.011 ^{c2}	0.783 ^{c1}	

^{b1} = Mann-Whitney U test; ^{b2} = Independent-samples t-test; ^{c1} = paired-samples t test; ^{c2} = Wilcoxon signed-rank test.

IIEF: International Index of Erectile Function

Outcomes according to the urethroplasty technique

For anastomotic urethroplasty, the mean erectile function score fell from 23.46 to 18.21 ($p<0.001$). In the augmentation group, it dropped from 26.06 to 19.76 ($p<0.001$). The augmentation group had higher preoperative scores ($p=0.001$), but this difference was not significant postoperatively ($p=0.264$). Intercourse satisfaction significantly decreased after anastomotic urethroplasty, dropping from 12.23 to 7.90 ($p<0.001$). No significant change was found in the augmentation group ($p=0.344$). Although preoperative scores were similar ($p=0.456$), postoperative scores were higher for the augmentation group (11.94 vs. 7.90; $p<0.001$). Orgasmic function did not change significantly in either group. Sexual desire declined in the anastomotic group from 7.90 to 7.36 ($p=0.027$), while the augmentation group remained stable ($p=0.251$). Overall satisfaction decreased in the anastomotic group, from 8.03 to 7.13 ($p=0.002$), but remained unchanged in the augmentation group ($p=0.210$). Preoperative scores were similar ($p=0.224$), but at six months, the augmentation group had a significantly higher score (8.29 vs. 7.13; $p=0.001$) (see Table 5).

Table 5. Preoperative and postoperative IIEF-15 domain scores within and between urethroplasty techniques

IIEF	Technique		P value
	Anastomotic urethroplasty (n=39)	Augmentation urethroplasty (n=17)	
	Mean ± SD (median)	Mean ± SD (median)	
Erectile function			
Preoperative	23.46 ± 3.46 (24.0)	26.06 ± 2.08 (26.0)	0.001 ^{b2}
Postoperative	18.21 ± 4.54 (18.0)	19.76 ± 6.05 (21.0)	0.264 ^{b1}
Preop-postop p	<0.001 ^{c2}	<0.001 ^{c1}	
Intercourse satisfaction			
Preoperative	12.23 ± 1.20 (12.0)	12.47 ± 1.07 (13.0)	0.456 ^{b1}
Postoperative	7.90 ± 1.65 (8.0)	11.94 ± 2.11 (12.0)	<0.001 ^{b1}
Preop-postop p	<0.001 ^{c2}	0.344 ^{c1}	
Orgasmic function			
Preoperative	7.95 ± 1.12 (8.0)	8.06 ± 1.14 (8.0)	0.608 ^{b1}
Postoperative	7.67 ± 1.20 (8.0)	7.88 ± 1.11 (8.0)	0.645 ^{b1}
Preop-postop p	0.284 ^{c1}	0.653 ^{c1}	
Sexual desire			
Preoperative	7.90 ± 1.41 (8.0)	8.24 ± 0.90 (8.0)	0.508 ^{b1}
Postoperative	7.36 ± 1.04 (7.0)	7.88 ± 0.93 (8.0)	0.079 ^{b1}
Preop-postop p	0.027 ^{c2}	0.251 ^{c1}	
Overall satisfaction			
Preoperative	8.03 ± 1.29 (8.0)	7.59 ± 1.37 (8.0)	0.224 ^{b1}
Postoperative	7.13 ± 0.98 (7.0)	8.29 ± 1.21 (9.0)	0.001 ^{b1}
Preop-postop p	0.002 ^{c2}	0.210 ^{c1}	

^{b1} = Mann-Whitney U test; ^{b2} = Independent-samples t-test; ^{c1} = paired-samples t test; ^{c2} = Wilcoxon signed-rank test.

Multivariate Model Analysis

Age ≥ 60 years was associated with a lower change score than age < 60 years ($\beta = -6.10$, 95% CI, -8.05 to -4.15 ; $p < 0.001$). The model for intercourse satisfaction was also significant ($R^2 = 0.440$; adjusted $R^2 = 0.407$; $p < 0.001$). Augmentation urethroplasty was associated with a higher change score than anastomotic ($\beta = 4.04$, 95% CI $2.55-5.53$; $p < 0.001$). The models for orgasmic function and sexual desire were not statistically significant overall ($p = 0.302$ and $p = 0.147$, respectively). However, age ≥ 60 years was nominally associated with a greater change in sexual desire score ($\beta = 1.07$, 95% CI $0.14-2.00$; $p = 0.025$). Stricture length ≥ 2 cm was not significantly associated with changes in any IIEF domain (see Table 6).

Table 6. Multivariable linear regression analyses of changes in IIEF domain scores at 6 months

IIEF domain	Predictor	Coefficient	95% CI	P value
Erectile function	Age >=60 years	-6.10	[-8.05, -4.15]	<0.001
	Stricture length >=2 cm	-0.39	[-2.62, 1.85]	0.731
	Augmentation vs anastomotic urethroplasty	-0.66	[-3.01, 1.69]	0.577
Intercourse satisfaction	Age >=60 years	-1.24	[-2.47, 0.00]	0.050
	Stricture length >=2 cm	-0.36	[-1.78, 1.06]	0.611
	Augmentation vs anastomotic urethroplasty	4.04	[2.55, 5.53]	<0.001
Orgasmic function	Age >=60 years	-0.50	[-1.41, 0.41]	0.273
	Stricture length >=2 cm	-0.95	[-1.99, 0.10]	0.074
	Augmentation vs anastomotic urethroplasty	0.65	[-0.45, 1.74]	0.242
Sexual desire	Age >=60 years	1.07	[0.14, 2.00]	0.025
	Stricture length >=2 cm	0.52	[-0.54, 1.59]	0.330
	Augmentation vs anastomotic urethroplasty	-0.13	[-1.26, 0.99]	0.811
Overall satisfaction	Age >=60 years	0.92	[-0.09, 1.92]	0.073
	Stricture length >=2 cm	0.81	[-0.34, 1.96]	0.164
	Augmentation vs anastomotic urethroplasty	1.13	[-0.09, 2.34]	0.068

DISCUSSION

In our study, we observed significant reductions at 6 months in erectile function, intercourse satisfaction, and sexual desire, while orgasmic function and overall satisfaction remained statistically unchanged. The most notable decline was in erectile function, with a mean reduction of -5.57 points, followed by

intercourse satisfaction with a decline of -3.17 points. These findings contrast with the prospective study conducted by Urkmez et al., which reported no significant overall deterioration in erectile, orgasmic, or general sexual function after 6 months [8]. However, they are consistent with studies suggesting that an early postoperative decline in erectile function may improve during longer follow-up [9–12]. Overall, these findings highlight that urethroplasty may affect sexual function in a domain-specific manner, and that six-month outcomes should not necessarily be interpreted as evidence of permanent dysfunction.

Age was the most consistent independent predictor of postoperative change in erectile function. Although both age groups experienced significant deterioration, patients aged ≥ 60 years had a substantially greater decline than those aged < 60 years. In the multivariable model, age ≥ 60 years was associated with an additional 6.10-point reduction in change in erectile function compared with the younger reference group ($p < 0.001$). This result is consistent with the prospective findings of Urkmez et al., who observed lower postoperative erectile and satisfaction scores among older men. However, their study did not demonstrate a significant age-related difference in overall change [8]. Age did not independently affect orgasmic function or overall satisfaction. Although there was a positive association with sexual desire ($p = 0.025$), this finding should be interpreted with caution, as the overall model was not statistically significant and multiple comparisons were made. Thus, older age seems more relevant to the recovery of erectile function than to a universal decline across all IIEF domains.

Stricture length was not an independent predictor of change in any IIEF domain after adjustment for age and surgical technique. The apparent postoperative advantage of patients with strictures ≥ 2 cm in intercourse and overall satisfaction in the unadjusted analysis was attenuated in the multivariable models. Specifically, the adjusted associations for length ≥ 2 cm were not statistically significant for erectile function ($p = 0.731$), intercourse satisfaction ($p = 0.611$), orgasmic function ($p = 0.074$), sexual desire ($p = 0.330$), or overall satisfaction ($p = 0.164$). These results are compatible with the prospective study by Beysens et al., in which shorter strictures were more frequently treated with anastomotic repair. However, an early decline in erectile function was observed after anastomotic repair; no significant between-technique difference remained at 6 months [9]. Similarly, a systematic review emphasized that stricture length may influence surgical selection, but its independent effect on sexual outcomes remains heterogeneous [13–15]. Thus, stricture length alone should not be considered a reliable determinant of postoperative sexual-function change.

The choice of surgical technique significantly impacts erectile function, with findings indicating a domain-specific nature. Both anastomotic and augmentation urethroplasty show notable declines in erectile function in unadjusted analyses, but adjusted results reveal no significant difference between the two approaches ($p = 0.577$). This aligns with research suggesting that long-term erectile dysfunction is rare, with minimal differences between transecting and non-transecting techniques [16]. Zhao et al. found that non-transecting bulbar urethroplasty lowers the risk of erectile dysfunction without compromising stricture resolution [17]. At the same time, Dogra et al. noted that transecting bulbar urethroplasty is associated with a higher risk of sexual dysfunction compared to non-transecting methods [18]. This highlights how surgical approach and stricture location can influence sexual

outcomes. Conversely, some studies, like that of Erickson et al., indicate urethroplasty may not significantly affect erectile function, positively impacting ejaculatory function instead [19]. Although older patients reported higher instances of erectile dysfunction post-surgery, their function may improve over time. These insights underscore the importance of surgical choices and their implications for patient outcomes.

This study's strengths include its prospective design, consecutive patient recruitment, and the use of the IIEF-15 instrument with paired preoperative and postoperative assessments to evaluate five distinct sexual function outcomes. To the best of our knowledge, this is the first prospective study in Vietnam to analyze changes in sexual function after urethroplasty, using subgroup analyses and multivariable linear regression, providing valuable data from an underrepresented population. However, limitations include the availability of complete paired IIEF data for only 56 patients, the study's single-institution setting, and unequal group sizes for surgical techniques. The choice of surgical technique based on clinical anatomy may also introduce confounding factors. Future multicenter studies with larger sample sizes and longer follow-up periods are needed.

CONCLUSION

In this study, patients demonstrated significant declines in erectile function and intercourse satisfaction at six months, especially in men aged 60 and older. Augmentation urethroplasty was associated with a more favorable change in intercourse satisfaction. These results highlight the need for routine sexual function assessments post-surgery and suggest that further research is required.

Declarations

AUTHOR CONTRIBUTIONS

Hung Lenh Do: Project Management, Writing - review & editing. **Dung Mai Ba Tien:** Conceptualization, Writing - review & editing, Supervisor. **Thien Tan Tri Tai Truyen:** Writing - revision and editing. **Nguyen Hai Dang Le:** Data curation, Formal analysis, Writing - original draft.

CONSENT: Informed consent has been obtained from our patient.

AUTHOR AGREEMENT: All authors have seen and approved the final version of the manuscript being submitted.

GUARANTOR: Thien Tan Tri Tai Truyen

AI DECLARATIONS: None to declare

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ETHICAL APPROVAL

The study was approved by the Biomedical Research Ethics Committee at Pham Ngoc Thach University (Decision No. 1234/TĐHYKPNT-HĐĐĐ). Written informed consent was obtained from all participants before enrollment.

CONFLICT OF INTEREST

None

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None

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Figures

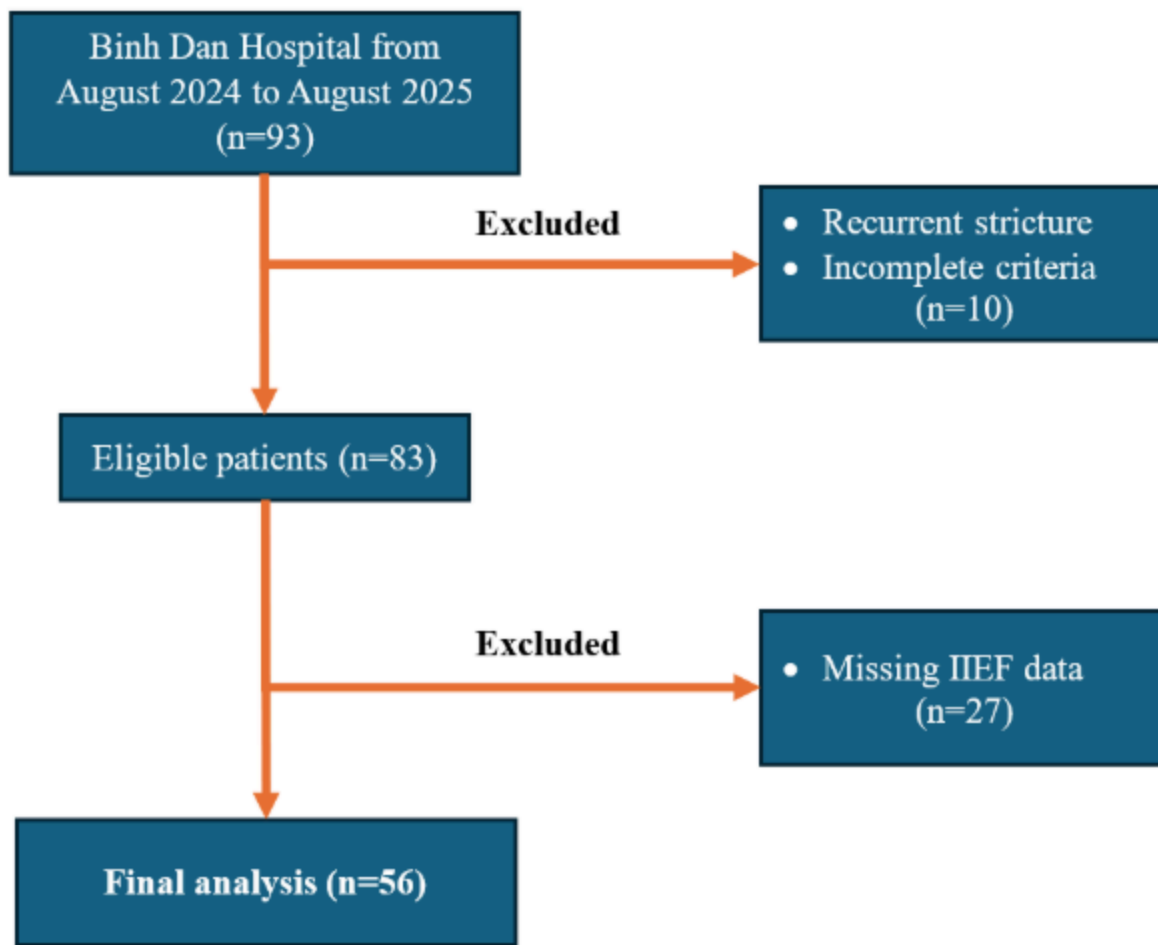


Figure 1

Patient selection flow chart from August 2024 to August 2025

Among 93 patients undergoing urethroplasty between August 2024 and August 2025, 56 patients with complete preoperative and postoperative IIEF data were included in the final analysis after excluding recurrent strictures, incomplete data, and missing IIEF data.