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ORIGINAL RESEARCH

Predictors of Satisfaction in Men After Penile Implant Surgery

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ABSTRACT

Introduction: Despite the high satisfaction with penile implant (PI) surgery reported in the literature, a significant proportion of patients remain dissatisfied.

Aim: To evaluate satisfaction after PI surgery, using a single question and a scoring system. Furthermore, we attempted to define factors that predicted high patient satisfaction.

Methods: The study population consisted of all patients undergoing PI surgery between 2009 and 2015. Comorbidity, demographic, and implant information were recorded. Complications recorded included: minor (requiring no re-operation) such as penile or scrotal hematoma, superficial wound breakdown; major (requiring hospitalization or re-operation) such as device infection, erosion, and mechanical malfunction. Patient satisfaction was defined using a single question posed to the patient 6 months after surgery using a 5-point Likert scale (5 being the most satisfied). Descriptive statistics were used to define complication rates and multivariable analysis (MVA) was performed to define predictors of high satisfaction (score $\geq$ 4), including presence and degree of complications, Peyronie's disease (PD), diabetes mellitus (DM), number of vascular comorbidities, body mass index (BMI) $>$ 30, and patient age.

Main Outcome Measure: Patients with a major complication, with or without an additional minor complication, had a higher likelihood of being dissatisfied (25%) compared to patients with no complication or only minor complication 1.9% (no complications) and 3.7% (only minor complications), $P < .001$.

Results: 902 patients were analysed. Mean age was 56.6 $\pm$ 10.6 years. Mean BMI was 30 $\pm$ 5. Comorbidity profile was diabetes 75%, dyslipidaemia 44%, hypertension 33%, cigarette smoking 32%, and PD 34%. 76% had a malleable implant (MPP) and 24% an inflatable implant (IPP). 31% had a minor complication and 9% a major complication. 93% had high satisfaction (score $\geq$4). Patients with any complication had a reduced rate of high satisfaction (97.5% vs 87.7%; $P < .001$) and even more pronounced with a major complication (96.7% vs 64.2%; $P < .001$). On MVA, only the absence of a major complication was a significant predictor of high satisfaction (OR 20, 95% CI 9-50, $P < .001$).

Conclusion: A high percentage of men are satisfied after penile implant surgery. Only the presence of a major complication is linked to a lower likelihood of achieving high satisfaction. **Habous M, Tal R, Tealab A, et al. Predictors of Satisfaction in Men After Penile Implant Surgery. J Sex Med 2018;XX:XXX–XXX.**

Key Words: Penile Implants; Complications; Satisfaction; Predictors

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INTRODUCTION

When compared with other treatments for erectile dysfunction (ED), including erectogenic pharmacotherapies and vacuum devices, the current literature suggests that patients who have penile implant (PI) surgery have the highest satisfaction rates.[1−3] Penile implants are divided into inflatable devices and malleable devices. Currently, the preferred type of penile implant in North America and Western Europe is the inflatable device (IPP), but in many parts of the world, malleable penile prosthesis (MPP) is the most commonly used, often for cost reasons.[4]

The aims of PI surgery are to achieve high patient satisfaction combined with the low complication rates. Numerous studies have reported high satisfaction rates for patients after PI surgery for the treatment of ED. The highest patient-reported rates of satisfaction have been associated with the 3-piece IPP.[5,6] But in general, patient satisfaction rates range were from 75% to 98% for the general penile implant population.[1−7]

Many predictors for patient satisfaction following PI surgery have been suggested, including presence of Peyronie's disease (PD), obesity, prior radical prostatectomy (RP), type of implant, postoperative complications, and patient age.[1,3−5,8,9] There is no specific tool for accurate patient satisfaction level after PI surgery. Some have relied on surgeon self-assessment whereas others have used a variety of questionnaires, including the international index of erectile function (IIEF) questionnaire,[1,3,6,9,10] and the erectile dysfunction inventory of treatment satisfaction (EDITS) questionnaire.[4,7,8,10] Others used simplified postoperative satisfaction scales.[11] It is worth mentioning that none of these measurements tools have been validated to measure post-PI satisfaction specifically.

The aim of this study was not only to measure satisfaction level, as previously published, but also to further understand satisfaction predictive factors. Understanding these factors may potentially lead to identification of modifiable clinical practice improvements and to the ultimate goal: higher patient satisfaction.

PATIENTS AND METHODS

Study Population

This study is based on a prospectively built large multicentre database including all cases of primary (non-redo) penile implant surgery performed in the years 2009 to 2015. The data collected for each procedure included identification of the center and surgeon, patient data including demographic, medical and sexual history, age and indication for surgery, procedure-related data including implant type used, follow-up−related data including duration of follow-up and early and late complications. Complications were defined as minor (not requiring hospitalization or re-operation), such as penile or scrotal ecchymosis, hematoma, superficial wound breakdown; and major (requiring hospitalization or re-operation), such as device infection, mechanical failure, and erosion.

Table 1. Study population characteristics

Variable analyzed	%
Diabetes	71.3
HbA1c	
<6.5	28.7
6.5-7.5	12.6
7.5-8.5	21.6
8.5-9.5	17.6
> 9.5	19.5
Hypertension	32.9
Dyslipidemia	43.3
Smoker	31.8
Vascular risk factors number	
0	11.7
1	31.6
2	29.7
3	19.4
4	7.3
5	0.3
BMI > 30	45.8
Surgeon implant volume (Number of cases)	
<30	8.4
≥30	91.6
Peyronie's disease	66.6
Implant type	
Malleable	74.5
Inflatable	25.5

Preoperative Counselling

The preoperative discussion focused on the goal of surgery of obtaining a "functional erection," an erection permitting sexual intercourse. Advantages and disadvantages of both types of implants, MPP and IPP, were explained thoroughly for all patients. Choosing MPP versus IPP was the patient's decision. The surgeon's role was to explain the advantages and disadvantages of each type of implant using educational videos. Choosing MPP versus IPP was based on patient's preference including factors such as concerns regarding concealment, ease of use but often relied heavily on cost, because PI surgery is not covered by insurance in our geographic location. This consent form signed by all patients included all the potential complications listed above.

Operative Considerations

For malleable implants, the preferred approach was a ventral raphe incision. For inflatable implants, all were done through a penoscrotal approach. MPP patients were discharged the same day while IPP patients were discharged the next morning. The patients were seen in the outpatient clinic twice a week for the first 2 weeks, weekly in the third and fourth weeks and every 3 months until loss to follow-up.