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Original Article

Comparison of patient satisfaction rates for the malleable and two piece-inflatable penile prostheses

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ABSTRACT

Objective: To compare patient/partner satisfaction with AMS 600-650 and AMS Ambicore penile implants (American Medical Systems, Minneapolis, USA) in patients with erectile dysfunction.

Material and methods: The modified Erectile Dysfunction Inventory of Treatment Satisfaction (EDITS) questionnaires at six months after implantation of 46 patients who underwent AMS 600-650 (n=23) or Ambicore placement (n=23) between 1/1/2008 and 1/1/2013 were analyzed.

Results: The percentages of patients with AMS 600-650 who reported to be satisfied, very satisfied and neither satisfied nor dissatisfied with their prostheses were 34.78% (n=8), 30.43% (n=7) and 34.78% (n=8), respectively. For patients with AMS Ambicore, these percentages were 73.91% (n=17), 13.04% (n=3) and 13.04% (n=3), respectively. These overall satisfaction rates were significantly different between patients with AMS 600-650 and Ambicore (p=0.013). For patients with AMS 600-650, the percentages of patients who reported to be very likely, neither likely nor unlikely, or very unlikely to continue using their prosthesis were 30.43% (n=7), 34.78% (n=8), and 34.78% (n=8) while for patients with AMS Ambicore, these percentages were 65.21%, 21.33%, and 13.04%, respectively. These percentages were different between patients with AMS 600-650 and Ambicore (p=0.018).

Conclusion: The two-piece inflatable penile prosthesis was found to be more successful in overall satisfaction and more likely for continued use when compared to the malleable penile prosthesis.

Key words: Erectile dysfunction; patient satisfaction; penile prostheses.

Introduction

Surgical implantation of a penile prosthesis is a treatment option for patients with erectile dysfunction due to an organic cause and who are unwilling to consider, fail to respond to, or cannot continue with medical treatment or external devices.[1-3] Penile prosthesis implantation is a safe and effective treatment modality with high patient satisfaction rates.[4]

Penile prostheses available in the market include one-piece malleable and two- and three-piece inflatable versions. Each type of penile prosthesis has its own advantages and disadvantages. Malleable prostheses are less expensive, easier to use and less likely to fail mechanically compared to inflatable prostheses. However, complete penile detumescence cannot be achieved with malleable implants, and this may be an important factor for patient satisfaction.[5,6] Although inflatable prostheses permit penile flaccidity and have a better functional result, not all patients are able to use this device due to lack of dexterity.[7] Patient satisfaction is closely associated with patient expectations and the performance of the implanted prosthesis.[8] Thus, making a shared decision by the clinician and the patient together on choosing which implant to use is important to improve patient satisfaction.

Three-piece inflatable penile implants are currently the most commonly implanted prostheses, and many studies have reported good patient satisfaction rates.[1,3,7,9] However, both the malleable and two-piece penile implants may be indicated in selected patients who are not appropriate for the three-piece inflatable implants due to the various reasons previously mentioned.[9] However, few studies have investigated the partner's satisfaction with the two-piece inflatable and malleable penile prostheses.[1,9]

The aim of this study was to compare patient/partner satisfaction rates with malleable (AMS 600-650) and two-piece inflatable penile pros-

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thesis (Ambicor) in patients who underwent a penile prosthesis implantation due to erectile dysfunction.

Materials and methods

Following an approval from our institutional ethical board, the Medical Faculty of Uludag University and written consent from the patients involved, patients who underwent AMS 600-650 or Ambicor penile prosthesis implantation in a single tertiary referral center between January 2008 and January 2013 were included in the study. The type of penile prosthesis was chosen jointly by the patient and the clinician together. Patients who were not Turkish-speaking, who were deceased or whose prosthesis were explanted within 6 months following the surgery were excluded. Patient demographics and implant characteristics were recorded.

The modified Erectile Dysfunction Inventory of Treatment Satisfaction questionnaire (EDITS) was used to assess the satisfaction with the prostheses for erectile dysfunction and to investigate the impact of the patient and partner satisfaction on the treatment continuation. This questionnaire evaluates the overall patient satisfaction, the degree to which the prosthesis met patient expectations, the likelihood of continued use, the ease of use, the confidence in the ability to engage in sexual activity and the patient-reported partner satisfaction.

Statistical analysis

The statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS Inc., Chicago, IL, USA) software version 20.0. The data are given as the means±standard deviation (SD). A t-test was used for comparisons between two groups with normal distribution. The categorical data are presented as numbers and percentages and were tested with a Chi-square test. Statistical significance was considered at the $p \leq 0.05$ level.

Results

A total of 72 patients had either AMS 600-650 or Ambicor penile prosthesis during the study period. Of the 68 patients who met our inclusion criteria, 46 patients who agreed to respond to the EDITS questionnaire were reviewed. The mean age of the patients was 56.7±12.9 and 58.6±9.5 in AMS 600-650 and AMS Ambicor group, respectively. There was no significant difference between the groups in terms of the patients' ages (p=0.52). The indications for the penile prosthesis AMS 600-650 were vascular dysfunction in 17, radical prostatectomy in 3 and priapism in 3 patients. In the AMS Ambicor group, the indications were vascular dysfunction in 18, chronic renal failure (the patient with renal transplant) in 1, and previous pelvic surgery in 4 patients.

Comparison of the EDITS score between the two groups is presented in Table 1. Overall satisfaction rates and the likelihood of continued use were significantly higher in the AMS Ambicor group (p=0.013 and p=0.018, respectively). Other answers from the EDITS revealed more patient satisfaction with Ambicor; however, this result was statistically insignificant.

Discussion

The results of the present study showed higher satisfaction rates with the two-piece inflatable prostheses when compared to malleable prostheses.

The percentages of patients who reported to be very satisfied with Ambicor and AMS 600-650 were 34.78% and 73.91, respectively. Natali et al.[9] reported 67% and 56% very satisfied patients with Ambicor and AMS 600-650, respectively. In this study, patient satisfaction with prostheses was investigated with the modified EDITS questionnaire (by Levine and colleagues). They did not report whether these patient satisfaction rates with the AMS Ambicor and AMS 600-650 were significantly different. We found that there was a statistically significant difference between the patient satisfaction rates with the AMS Ambicor and 600-650. Minervini and colleagues[10] reported 71% patient satisfaction with the AMS 600-650 by an interview made during office visit or telephone. They considered patients to be satisfied when the patients reported to be able to have satisfactory intercourse and were happy with the results of the operation. Chiva Robles et al.[11] reported acceptable satisfaction in 54% of the patients with AMS 600-650 by telephone interview. Our results are in accordance with those previously reported.

Levine et al.[12] found 91% overall patient satisfaction rates with AMS Ambicor. In this study, they used the modified (by Levine et al) EDITS questionnaire with eight items, and each item categorized patients into five different subsets according to their satisfaction status. Lux et al.[13] reported 85% overall patient satisfaction with the AMS Ambicor by using a modified EDITS questionnaire with six items. They calculated the overall patient satisfaction by adding the number of patients who reported to be very satisfied to those somewhat satisfied. We used the modified EDITS questionnaire with six items, and each item classified patients into three subgroups according to their satisfaction rates, and patient satisfaction status with implants was categorized into three subclasses; very satisfied, neither satisfied nor dissatisfied and very dissatisfied. These patient satisfaction rates with the AMS Ambicor cannot be compared with those of the present study because only patients who reported to be very satisfied with their penile implants were accepted as satisfied.

Today, the three-piece inflatable prosthesis is the most preferred type of prosthesis. Carson et al.[14] evaluated the AMS 700CX prosthesis in 372 men and reported an overall satisfaction rate of more than 85% after a median follow-up of 47.7 months.

Table 1. Results obtained using the modified Erectile Dysfunction Inventory of Treatment Satisfaction (EDITS) for AMS malleable and Ambicor penile prostheses

Questions	Answers	AMS malleable (%) (n=23)	AMS Ambicore (%) (n=23)	
Overall, how satisfied are you with your penile prosthesis?	Very satisfied	34.78	73.91	0.013*
	Neither satisfied nor dissatisfied	30.43	13.04	
	Very dissatisfied	34.78	13.04	
During the past four weeks, to what degree has the treatment you received for your erectile dysfunction met your expectations?	Completely	30.43	52.17	0.061
	Somewhat	34.78	34.78	
	Not at al	34.78	13.04	
How likely are you to continue using your penile prosthesis?	Very likely	30.43	65.21	0.018*
	Neither likely nor unlikely	34.78	21.73	
	Very unlikely	34.78	13.04	
During the past four weeks, how easy was it for you to use this treatment?	Very easy	39.13	69.56	0.056
	Neither easy nor difficult	26.08	13.04	
	Very difficult	34.78	17.39	
How confident has your penile prosthesis made you feel about your ability to engage in sexual activity?	Very confident	47.82	78.26	0.106
	It has had no impact	26.08	4.34	
	Considerably less confident	26.08	17.39	
Overall, how satisfied do you believe your partner is with the effects of this treatment for your erectile dysfunction?	Very satisfied	39.13	47.82	0.182
	Neither satisfied nor dissatisfied	26.08	39.13	
	Very dissatisfied	34.78	13.04	

AMS: American Medical Systems *p<0.05

Goldstein et al.[15] evaluated the Mentor three-piece inflatable prosthesis in 434 men and reported that expectations were realized in 89%. Additionally, they reported an overall satisfaction of over 80% after a mean follow-up of 22.2 months. These reported satisfaction rates with the three-piece prosthesis are higher than those with both the two-piece and malleable prostheses reported in the present study.

The patients with implanted AMS Ambicor were more likely (65%) to continue using their prostheses than those with AMS 600-650 (30). Natali et al.[9] reported that the likelihood of continued use by patients for the AMS Ambicor was 89% (n=59) and for the AMS 600-650 was 56% (n=9). In the study by Lux and colleagues[13], 75% of the patients with AMS Ambicor reported to be moderately or very likely to continue using their prostheses. These results are in line with our findings.

In our study, we did not find any differences between AMS Ambicor and AMS 600-650 in terms of ease of use, confidence in the ability to engage in sexual activity, or meeting of expectations of patient and patient-reported partner satisfaction. Lux et al.[13] reported 79% partner satisfaction rates with redesigned two-piece inflatable prosthesis. Levine et al.[12] evaluated 131 men who underwent two-piece inflatable prosthesis (Ambicor), and they reported 90% partner satisfaction rates. In our study, patient-reported satisfaction rates (very satisfied) with AMS 600-650 and Ambicor were 39.13% and 47.82%, respectively. Partner satisfaction rates with Ambicor reported by these authors previously are higher than those reported in the present study.

The current study has some limitations including a retrospective design, selection bias and small sample size. In our study, partner satisfaction is evaluated by the patients instead of the partners themselves. This could be another limitation. We believe a prospective multicenter studies with more patients will improve our understanding of comparing the satisfaction rates between these two implants.

In conclusion, the AMS Ambicor provides much more overall patient satisfaction than the AMS 600-650. The patients implanted with the AMS Ambicor are more likely to continue using their prostheses than those implanted with AMS 600-650. However, the AMS Ambicor has the same results as the AMS 600-650 in terms of the ease of use, confidence in the ability to engage in sexual activity, and meeting the expectations of the patient and those of the partner, as reported by the patient.

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