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Sexual functions in patients with benign prostatic hyperplasia before and after transurethral resection of the prostate

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Abstract The purpose of this prospective study was to evaluate the sexual function of patients with benign prostatic hyperplasia (BPH) before and after transurethral resection of the prostate (TURP). The sexual functions of 155 patients with BPH were evaluated before TURP and 6 and 12 months afterwards. The mean age of the patients was 69 years (range 49–86 years). The only significant change in sexual function after TURP was improvement in early morning erections ($P < 0.01$). Sixty-eight per cent of the patients were satisfied with their sex life before TURP, 69% after 6 months and 67% after 12 months. The corresponding percentages of patients satisfied with their libido were 60%, 59% and 54%. Only 26% of the patients had completely satisfactory erections before TURP, while 22% had them 6 months later and 24% 12 months later. The proportion of fully impotent patients was 11% before the procedure, 13% after 6 months and 16% after 12 months. In 84% of the patients ejaculation was retrograde 6 months and 12 months after TURP. We conclude that TURP does not affect the sexual function of patients with BPH, with the exception of retrograde ejaculation.

Key words TURP · Benign prostatic hyperplasia · Sexual function · Libido · Erection · Ejaculation

Introduction

Transurethral resection of the prostate (TURP) continues to be the commonest and most effective method of treating benign prostatic hyperplasia (BPH) despite the new treatments available. TURP provides quick alleviation of symptoms and has been established as safe [3, 12, 13]. It may, however, have some adverse effects, most

commonly disturbances of sexual function, which have been reported to occur in 4–40% of the patients undergoing this procedure [1, 4, 6, 7, 9, 11]. Many of the studies concerning sexual functions after TURP have been retrospective, however, and have hence relied excessively on the patients' memories, which may have biased the results. The aim of our prospective study was to clarify the effect of TURP on sexual functions in patients with BPH.

Patients and methods

The primary study population consisted of 212 consecutive patients referred for elective electroresection of the prostate in a period of 1 year at the University of Oulu. Fifty-seven patients were not included in the analysis because of a lack of data. The mean age of the patients was 69 years range (49–86 years). The mean prostatic volume determined by transrectal sonography (Brüel & Kjaer) before TURP was 50.4 cm³ (range 14.0–107.0 cm³). The mean weight of the resected prostate chips in TURP was 27.4 g (range 3–96 g). Incidental malignancies were diagnosed from the chips in only three of the 155 patients (2%).

On the day before TURP, each patient filled in a questionnaire related to this study in our hospital. The questionnaire consisted of 22 points pertaining to various aspects of sexual function, including the patients' life styles and general health, libido, satisfaction with their current sex life, occurrence of early morning erections, coital frequency, sexual potency, satisfaction with erection and ejaculation, percentage of successful intercourse, and the possible impairing effect of the procedure on potency. When necessary, the staff helped the patient to fill in the questionnaire. The patients completed the same questionnaire 6 and 12 months after TURP.

The Prat test was used to compare the various sexual functions before and after TURP.

Results

Analysis of the background data showed that 16% of the patients were regular smokers, 54% reported using alcohol two or three times a week, 67% said they slept well, and 66% reported stress symptoms. Only 7% of the 155 patients had been treated by pharmacotherapy for impotence before TURP.

Before TURP 68% of the patients were satisfied with their sex lives, while 69% were satisfied 6 months later and 67% 12 months later. Overall satisfaction with sex life did not change after TURP. Before TURP, 56% of the patients reported failure of intercourse on half or more than half of occasions, while the corresponding percentages were 51% at 6 months and 43% at 12 months. Thirty-eight per cent of the patients reported a coital frequency of once a week during the year preceding the procedure. On the other hand, 32% of the patients reported not having had intercourse during the previous year. Six months after the procedure 41% reported a coital frequency of once a week, while 32% had had no intercourse. At 12 months the coital frequency was once a week in 36% of the cases and none in 37%.

Figure 1 presents the findings on libido before TURP and 6 months and 12 months later. Sixty per cent of the patients reported good libido before TURP, while 59% did so at 6 months and 54% at 12 months.

Figure 2 shows erection before and 6 and 12 months after TURP. Only 26% of the patients had completely satisfactory erections before TURP, while 11% had no erection. Twenty-two per cent had completely satisfactory erection at 6 months and 24% at 12 months. No erection was reported by 13% at 6 months and by 16% at 12 months. TURP appeared to have no significant effect on erection. Early morning erections were reported by 53% of the patients before the procedure, and by 83% at 6 months and 72% at 12 months. The difference before and after TURP was significant ($P < 0.01$). Ejaculation during intercourse on half or more than half of the occasions was reported by 74% of the patients, while 12% had no ejaculation before TURP. Only 16% of the patients reported ejaculation at 6 and 12 months.

Figure 3 shows experience of orgasm before and 6 and 12 months after TURP. Orgasm was experienced during intercourse in half or more than half of the occasions by 76% of the patients before the procedure, and by 70% at 6 months and 74% at 12 months.

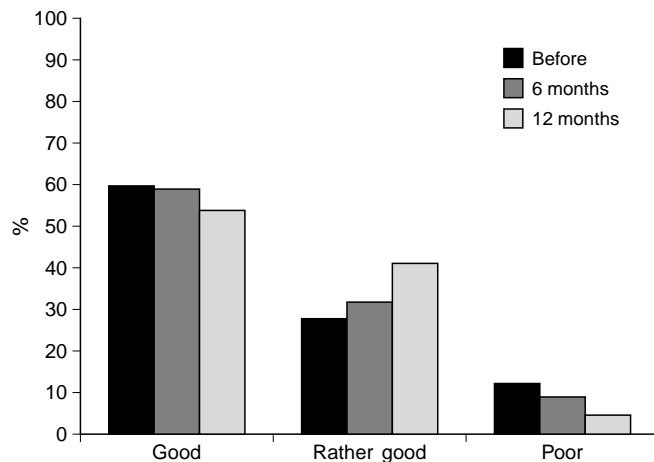


Fig. 1 Libido in 155 benign prostatic hyperplasia (BPH) patients before transurethral resection of the prostate (TURP) and at 6 and 12 months later

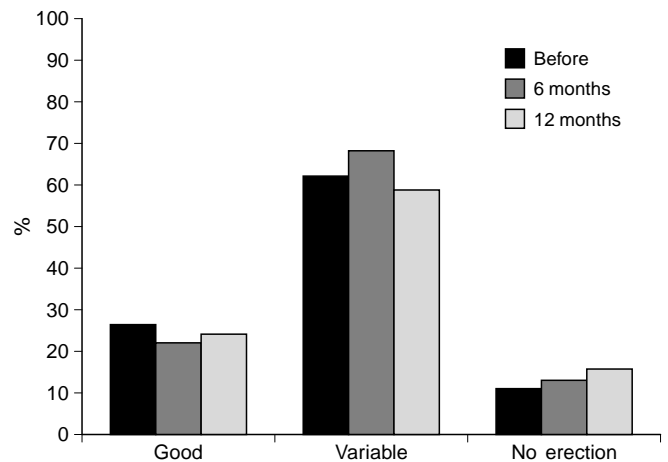


Fig. 2 Erection in 155 BPH patients before TURP and at 6 and 12 months later

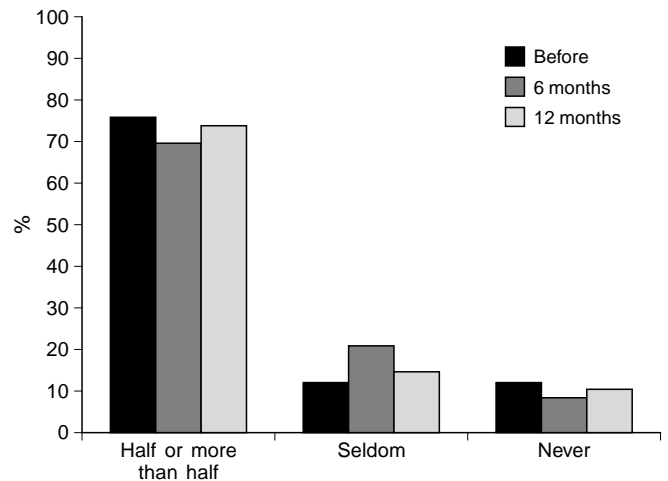


Fig. 3 Orgasm in 155 BPH patients before TURP and 6 and 12 months later

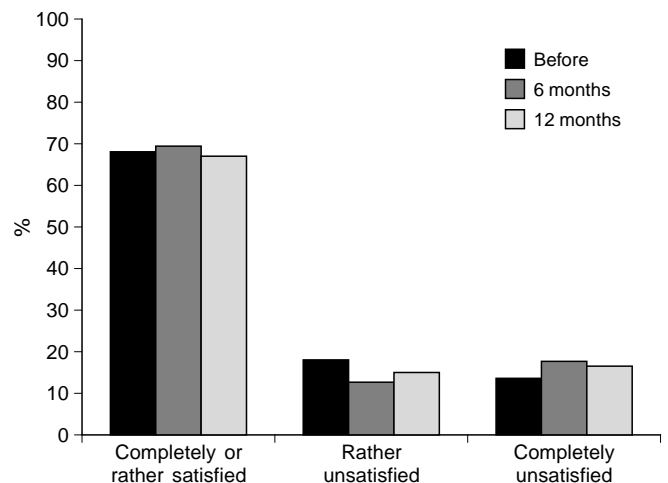


Fig. 4 Overall satisfaction with sex life in 155 BPH patients before TURP and at 6 and 12 months later

Figure 4 shows satisfaction of the patients with their sex life before TURP and at 6 and 12 months afterwards. The proportions who were somewhat unsatisfied and completely unsatisfied were the same before and after TURP.

Discussion

Erection is a complex phenomenon that involves neurological, hormonal, arterial, venous and muscular components and is further influenced by psychogenic, cognitive and environmental factors [2, 10]. This totality may suffer from disturbance as a consequence of TURP. The effect of TURP on sexual function may be brought about via several different routes, including the psychogenic effect of an invasive procedure in the genital region, injury of the nerve tracts supplying the corpus cavernosum as a result of electrocoagulation, thrombosis of the arteria cavernosa, venous leakage and injury of nerve tracts resulting from urethral dilation and urethrotomy before TURP [5, 14, 15, 16]. The fear and concern caused by the illness and the hospitalization, as well as the repeated and invasive examinations of the genital region, may also cause psychogenic impotence, which is usually transient.

Although the ages of our patients were relatively high (69 years) and the amount of resected tissue in TURP was fairly extensive (mean weight of the chips 27.4 g), TURP had no effect on the patients' libido, erection, orgasm and sex life as a whole. Early morning erections improved significantly after TURP. The reason for this finding is unclear and it has not been reported previously.

Retrospectively, the patient often associates disturbances of sexual function with the procedure, although these disturbances may actually have existed before TURP. The satisfaction of our patients with their sex life did not worsen during the year following TURP. Lanson [8] also concluded that TURP has no effect on sexual function if it is done before the age of 70 years. In his study, 66% of the patients were sexually active before TURP and 61% 12 months later. In our material, nearly half of the patients were over 70 years of age, yet despite that their sexual functions remained unchanged after TURP. Findings on the effects of TURP on sexual function are contradictory. There are many reports of impaired erection after TURP [1, 4, 6, 7, 9]. According

to the results of our study, TURP does not affect the sexual functions of the patient, apart from retrograde ejaculation, which is not particularly important at this age. Our good results could be explained by the facts that: (1) detailed information was given to the patient on the nature of the procedure as well as the possible risks related to it and their probability; (2) our study was prospective, and therefore the patients' memories have not influenced the results; and (3) in our hospital we have not carried out radical TURP in cases of BPH, and hence electroresection has not caused possible harmful thermal injury to the nerve tracts regulating ejaculation.

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