



COMPARATIVE STUDY BETWEEN MEDICAL AND SURGICAL MANAGEMENT OF BENIGN PROSTATIC HYPERPLASIA

Urology

Dr. Mahendra Bendre

Professor of Surgery, Dr. D. Y. Patil Medical College, Pimpri, PUNE -411018

Dr. Sunil Panchbhai

Professor of Surgery, Dr. D. Y. Patil Medical College, Pimpri, PUNE - 411018

Dr. Shivmurti Khandalkar

Assistant Professor of Surgery, Dr. D. Y. Patil Medical College, Pimpri, PUNE - 411018

Dr. Abid Raval

Senior resident, Department of urology, Bharati medical college and hospital, PUNE - 411043

ABSTRACT

A prospective study of 50 cases of BPH treated by medical and surgical therapy was done. Aim of the study was to compare the efficacy of medical versus surgical management. Transurethral resection of prostate was done in 15 patients while rest were managed by medical treatment. Significant symptomatic improvement was noted in surgical management group compared with other. No difference was noted in patients managed with medical monotherapy or combined therapy. There was significant reduction in residual urine and increase in urine flow rate in surgical management group versus medical.

Conclusion: Surgical management of BPH has superior results with TURP being gold standard procedure. Medical therapy should be offered to patients not willing or unfit for surgery or having early symptoms. Medical monotherapy with alfa-1-antagonist was effective in improving urinary symptoms and urinary flow rates in BPH patients and addition of 5-alfa-reductase inhibitors did not provide further benefit.

KEYWORDS:

BPH, TURP, Monotherapy, Combined medical therapy.

INTRODUCTION

Benign prostatic hyperplasia (BPH) is a commonest condition affecting men above 40 years. It is a hyperplastic process of fibromuscular, stromal and glandular elements of prostate. It manifests clinically with lower urinary tract symptoms and may be associated with sexual tract dysfunction (1). Use of alfa adrenergic blocker (Tamsulosin) and subsequently 5-a-reductase inhibitor (5-ARI), Finasteride, have proved useful in the treatment of BPH. MTOPS (Medical therapy of prostatic symptoms) established the role of combination therapy (2) and defined the role of alfa blockers for symptom relief while 5-ARI was suggested for prevention of disease progression.

However, prostatic surgery offers the best chance of symptomatic improvement, with Transurethral resection of prostate (TURP) now being the gold standard procedure. The current study is an attempt to compare medical and surgical management of the patient with BPH.

AIMS AND OBJECTIVES

The study was done with the aim of comparing the efficacy of medical and surgical treatment of BPH and to compare results of medical monotherapy with combined therapy, with the objective of determining the best possible treatment for each patient.

MATERIALS AND METHODS

A prospective study was conducted in a tertiary care hospital in 50 patients aged above 40 years coming with symptoms of prostatism. All patients with symptoms not likely due to BPH and patients having absolute need of surgery were excluded from study.

Routine tests of Complete hemogram, BUN, S. Creatinine and Urine examination with culture were done in all patients. Prostate specific antigen was done in cases suspicious for malignancy and patients enrolled for study for treatment with Finasteride if PSA was between 4 to 9.9 mcgm/ml. Residual urine volume and Peak urinary flow rate (PUFR) was measured in all patients.

Out of 50 patients, TURP was done in 25 cases. Rest 25 were subjected to medical treatment, out of which 12 were treated with alfa-1-antagonist monotherapy and 13 were managed with combined therapy with alfa-1-antagonist and 5-alfa-reductase inhibitors. All patients were followed for 12 months and improvement was noted in form of relief from symptoms, residual urine volume and Peak urine flow rate (PUFR).

OBSERVATIONS AND RESULTS

- 1) Age - Mean age of patients was 66.4 years with ¾ of patients above 60 years.
- 2) Duration - ¼ patients had symptoms > 5 years while 38% had < 1 year.
- 3) Sexual history - ¾ patients had their sexual life affected.
- 4) Comorbid conditions - 22% had h/o hypertension, 16% had h/o degenerative arthritis, 24% gave h/o diabetes while 14% gave h/o respiratory disease.
- 5) Symptoms - 86% patients presented with symptoms of dribbling, nocturia, straining in urination, urgency and hesitancy. Urinary retention was reported in half of them while hematuria was seen in 38%.
- 6) Complications - Renal insufficiency was observed in 38% while bladder calculi were noted in 16% of patients.
- 7) Distribution of patients - No significant difference was observed in both treatment groups in sexual history, severity of symptoms, chronic diseases and investigations.
- 8) Baseline parameters - Mean residual urinary volume was 109 and 113.1 in surgical and medical treatment groups (p - 0.97). Peak urine flow rate was significantly more in medical management group (10.1 vs 8.8 ml/sec).
- 9) Follow up parameters - Mean residual urine volume was found to be 51, 74 and 69 ml in surgical, medical monotherapy and combined medical therapy groups respectively. Peak urine flow rate was found to be significantly more in surgical management group (17.4 ml/sec) as compared to monotherapy (12.8 ml/sec) and combined medical therapy group (13.3 ml/sec)
- 10) Outcome of treatment - 1 patient treated surgically showed no

relief of symptoms compared to 6 and 5 patients treated with medical monotherapy and combined therapy, showing superiority of surgical treatment.

DISCUSSION

BPH is a complex disease from etiological and pathogenesis point of view. An increase in incidence of BPH worldwide, affecting > 50% men by age of 60 is predicted (3). BPH tends to be more severe in African-American men, presumably due to high testosterone levels and 5- α -reductase activity (4). In prostate gland, 5- α -reductase metabolises circulating testosterone into dihydrotestosterone which binds to androgen receptors in cells potentially resulting in BPH. Large number of α -1-adrenergic receptors are located in smooth muscles of stroma and capsule of prostate and bladder muscle, stimulation of which causes increase in smooth muscle tone worsening the obstructive symptoms. Conversely blockage of these can cause relaxation of these muscles with subsequent relief of symptoms. The prostatic hyperplasia causing restriction of urine flow also causes bladder hypertrophy and trabeculations causing bladder dysfunction.

We conducted a prospective observational study in a tertiary care hospital to evaluate the efficacy of surgical versus medical management in 50 patients of BPH. They were divided into medical and surgical management groups of 25 patients each. Baseline and follow up examinations were conducted after 12 months and results compared.

The mean age of patients in our study was 66.4 years. $\frac{1}{4}$ of patients had symptoms for > 5 years while 38% had them for < 1 year. Mean age of patients was 64.72 years in a study done by Raval et al (5) and 66.6 in a study by Lepor et al (6). In our study, $\frac{3}{4}$ of patients had sexual dysfunction while the same was in 44.5% cases in a series by Baniel et al (7). Obesity was present in 72% of our cases while 24%, 22% and 14% patients gave h/o DM, HTN and respiratory diseases respectively. Hammarsten et al showed that DM, HTN, Obesity and Low HDL cholesterol constitute high risk factors for development of BPH (8).

Most patients presented with c/o dribbling, nocturia, urgency, hesitancy and straining on micturition which were severe in 22% of cases. Although 2/3 respondents didn't consider these symptoms bothersome, every 1 in 15 patients found them equally troublesome in a series by Peter et al (9). Renal insufficiency was observed in 38%, bladder calculi were present in 16%, hematuria was seen in 38% and urinary retention was observed in 50% of our cases. In the American Urological Association Study, 27% patients had acute urinary retention and 3% had bladder stones (10) while Mc Connel found in his series that 20-30% patients had urinary retention and 1-2% of them had bladder stones (11).

No difference was observed between treatment groups on basis of presenting symptoms while significant improvement was seen in surgical management group compared with medical management on follow up. However, no difference was observed in patients treated with monotherapy or combined therapy. At baseline, Mean residual urine volume was 109 and 113.1 ml in medical and surgical management groups respectively (p= 0.97). On follow up, Mean residual urine volume was found to be 51, 74 and 69 ml in surgical, medical monotherapy and medical combined therapy group respectively. The difference was statistically significant for surgical versus medical management groups but not so amongst the medical management groups. Peak urine flow rate was significantly more in medical management group (10.1 vs 8.8 ml) than surgical management group. However on follow up, Peak urine flow rate was found to be significantly more in patients managed surgically (17.4 ml/sec) compared with patients managed with monotherapy (12.8 ml/sec) and combined therapy (13.3 ml/sec). Hedlund et al reported significant increase in mean urine flow rate (from 2.6 ml/sec to 3.7 ml/sec) and also an increase in maximal urine flow rate (from 4.9 ml/sec to 6.9 ml/sec) with medical management (12).

In our study, the mean decrease in residual volume in TURP group was 52 ml (53.2% improvement) while mean improvement in PUF was 8.6 ml/sec (97.7% improvement). Lepor et al reported efficacy of TURP in symptomatic BPH patients, where there was 88% decrease in obstructive score and 65% decrease in irritative score with overall improvement of 76.5%, while % improvement in PUF was 108% (13). McConnell et al, in their study of 3040 men, concluded that treatment with Finasteride for 4 years reduces symptoms and prostate volume, increases urinary flow rate and reduces probability of surgery and urinary retention (11). Wasson et al concluded in their study that surgery is more effective than watchful waiting in reducing the rate of treatment failure and improving genitourinary symptoms in BPH patients (14). Watchful waiting is usually a safe alternative for men who are less bothered by urinary difficulty or who wish to delay surgery.

Roger et al evaluated 1095 patients who were randomised to treatment for 52 weeks, with Doxazocin (α - adrenergic antagonist), Finasteride (5- α reductase inhibitor), combination of both and placebo. They concluded that Doxazocin was effective in improving urinary symptoms and urinary flow rates in BPH patients and was more effective than placebo. The addition of Finasteride didn't add further benefit to the treatment (15).

CONCLUSION

Medical treatment should be offered to those patients of BPH who have got early symptoms of prostatism and those who are not willing or unfit for surgery. Prostate surgery offers the best chance of symptomatic improvement with TURP being the gold standard procedure. Medical monotherapy with α -1 antagonist is effective in improving urinary symptoms and urine flow rates in men with BPH and addition of 5- α reductase doesn't provide any further benefit to the patient in symptomatic improvement.

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