

Comparison of the Outcome of Transurethral Resection of Prostate in Terms of Bleeding Complications with and without Preoperative Finasteride

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ABSTRACT

Objective: To compare the outcome of Transurethral Resection of Prostate in terms of bleeding complications, with and without preoperative Finasteride in the management of Benign Prostatic Hyperplasia.

Subject and method: Total 100 patients selected and admitted through OPD after clinical diagnosis of BPH who require TURP. They were divided into two groups, each having 50 patients fulfilling the inclusion criteria. Group A patients were given oral Finasteride 5 mg OD at bed time, preoperatively for 2 weeks through OPD basis and then they were operated upon for TURP and the group B patients were operated without taking Finasteride preoperatively. The outcome of Transurethral Resection of Prostate in terms of bleeding complications was evaluated statistically.

Results: It was noted that in group A (Finasteride group), perioperative gross haematuria was 10% (5 out of 50 patients) and in group B, it was 36% (18 out of 50 patients). It was also noted that requirement of blood transfusion was 8% (4 out of 50 patients) in group A patients, while it was 24% (12 out of 50 patients) in group B patients. Clot retention was 12% (6 out of 50 patients) in group A and 38% (19 out of 50 patients) in group B patients. Two patients out of 50 (4%) in group B (without Finasteride) required a return visit to operation room the control of bleeding surgically while none of the patients in group A (0%) required second visit to operation theatre for bleeding complication. Mortality was not observed in any case of both groups.

Key words: BPH, TURP, Finasteride and Bleeding.

INTRODUCTION

Benign Prostatic Hyperplasia (BPH) refers to the increase in size of the prostate in middle-aged and elderly men. Nodular Hyperplasia, still referred to as Benign Prostatic Hyperplasia (BPH) is an extremely common disorder in men over the age of 50¹.

Benign Prostatic Hyperplasia is characterized by hyperplasia of prostatic stroma and epithelial cells, resulting in formation of large and fairly discrete nodules in the periurethral region of the prostate. These nodules, when sufficiently large, compress and narrow the urethral canal to cause partial or sometimes virtually complete obstruction of urethra².

Benign Prostatic Hyperplasia (BPH) is a common cause of significant lower urinary tract symptoms in men and is the most common cause of bladder outflow obstruction in men more than 70 year of age³. A recent AUA guideline (2003) suggests an increase in the incidence of BPH worldwide and predicts by the age of 60 years, more than 50% of men will have microscopic evidence of the disease

and by the age of 85 years, as many as 90% of men will be affected⁴. Worldwide investigations for incidence of BPH are scanty and at times difficult to compare due to uneven definition of BPH based on different clinical parameters. There is also great geographical disparity in prevalence and degree of severity of symptoms of BPH. Benign enlargement of the prostate gland is reported to be most common in blacks, Caucasians, and Jews, but less frequent in males from the Far East. Though not well performed epidemiological investigations, these data along with clinicians' practical evidence indicate substantial need for a survey of the incidence of BPH in Pakistan. One study carried out at the Department of Urology, Lahore General Hospital Lahore and Mayo Hospital Lahore in 1998, in men above the age of 55 years (who never presented to the doctor with urinary symptoms, and they were the attendants of the hospital admitted patients), to document the symptoms of Benign Prostatic Hyperplasia. Prostatic symptoms scoring were done according to the American Urological Association (AUA) symptoms score. The study concluded that 90% of the subjects were with prostatic symptoms and 10% were

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symptom less⁵. However, the actual current incidence of BPH will require valid scientific evidence from pooled data, and Pakistan as a whole lacks a large-scale screening database of patients diagnosed for any prostatic disease.

BPH patients in our region present very late, most of them (>78%) with complication of urinary retention. Mode of presentation of BPH greatly influences the postoperative outcome of this disease⁶.

Refractory urinary retention, upper urinary tract deterioration, recurrent infection, haematuria and bladder stones are strong indications for intervention⁷. Now days, various open and Endoscopic procedures are available, depending on the size of prostate, ability and experience of the surgeon. But transurethral resection of prostate (TURP) still remains the safe procedure and must be adopted as operation of first choice for patients of BPH requiring surgery⁸. According to a recent local study conducted at Jinnah Postgraduate Medical Centre (JPMC), Karachi, all the obstructive uroflowmetry parameters return towards normal levels in patients with BPH after TURP. It indicates that there is excellent improvement relief in both obstructive and irritative symptoms⁹. Regarding the perioperative complications of TURP, besides sepsis, shock and post TURP syndrome, hemorrhage is the single most common complication, which may require blood transfusion, return to operation room if severe, clot retention and prolong hospital stay¹⁰.

Finasteride is a selective 5-alpha-reductase inhibitor, which reduces prostate vascularity by reducing the conversion of testosterone to dihydrotestosterone (DHT)¹¹ and thus decreases the prostate size and symptoms in patients with clinical BPH⁷. Recent studies by other researchers have shown that Finasteride also has a beneficial role to play in the treatment of haematuria secondary to benign prostatic hyperplasia by interacting with vascular endothelium growth factor. It has also been demonstrated that the short term preoperative use of Finasteride reduces bleeding during and after TURP¹².

Finasteride shrinks the size of Prostate and reduces hormone dependent neovascularity of the gland in BPH Patients, thus resulting in reduced bleeding during TURP¹¹. A two week course of Finasteride 5 mg HS preoperatively is recommended¹³.

In one study, pretreatment with Finasteride appears useful in reducing perioperative bleeding associated with TURP. In the patients pretreated with Finasteride, 1(8.3%) of 12 experienced perioperative bleeding; in the control group, 7(36.8%) of 19 had an episode bleeding¹⁴. Recent studies by other

researchers have also shown that short term preoperative treatment with 5 alpha reductase inhibitors have a beneficial role to reduce post TURP hemorrhage^{15,16,17}. Thus, a short course of preoperative Finasteride should be recommended for every patient under going TURP to minimize the bleeding complications of TURP.

MATERIALS AND METHODS

This is a randomized control trail of 100 patients divided into two groups of 50 patients conducted in the Department of Urology and Renal Transplantation, Mayo Hospital affiliated with King Edward Medical University Lahore. The sample selected was depended on the following inclusion and exclusion criteria. All the elderly male patients aging 50 to 85 year having symptomatic BPH, weighing up to 60 gm prostate on ultrasound were included in the study. Patients with the following conditions were excluded from the study. Patients with Hb < 12 gm/dl, with PSA > 4 n gm/dl, with severe Cardiopulmonary risk from preoperative assessment by history, physical examination and investigations, with CLD and Coagulopathy from history and medical record, with bleeding disorder from previous history and patient taking ASPRINE and NSAIDS from history.

RESULTS

In this study, the average age of the patients in group A was 67.50. The average age of the patients in group B was 68.20. The mean age in both groups was statistically the same. In this study, overall in 23(23%) patients, gross haematuria was noted; in which 5(5%) patients were from group A (Finasteride group) and 18(18%) patients were from group B (non Finasteride group). 16(16%) out of 100 patients required blood transfusion; in which 4(4%) patients were from group A (Finasteride group) and 12(12%) patients were from group B (non Finasteride group). In 84 (84%) of the patients no blood transfusions was needed. 25(25%) patients out of 100, postoperative clot retention and need for the Foley's Catheter wash was noted; in which 6(6%) patients were from group A (Finasteride group) and 19(19%) patients were from group B (non Finasteride group).

In 2(2%) patients out of 100, postoperative hemorrhage was so severe that it was not controlled by conservative measurement (catheter traction, perfuse irrigation and blood transfusions), a second visit to operation theatre for the control bleeding by again passing the sheath and resectoscope for clot evacuation and coagulation of bleeding points with electrocautry, was needed. Among these, none of

the patients (0%) from group A (Finasteride group) required second visit to OT. The two patients (2%) were among the Group B (non Finasteride group) patients.

If we sum up the results of all variables, it is concluded that 25 (25%) patients out of 100, peri-operative bleeding complications (in terms of gross haematuria or transfusion requirement , clot retention or a return visit to OT to control bleeding) associated with TURP were noted; in which 6 (6%) patients were from group A (Finasteride group) and 19(19%) patients were from group B (non Finasteride group).

Table 1: Descriptive statistics of patients age (years) with respect to study groups

	Group A	Group B
N	50	50
Mean	67.50	68.20
S.D	8.12	8.77
Minimum	52	54
Maximum	80	80

Table 2:

Haematuria	Group A	Group B	Total
Yes	5(10%)	18(36%)	23(23%)
No	45(90%)	32(64%)	77(77%)
Total	50(100%)	50(100%)	100(100%)

Group A = With Finasteride ,Group B = Without Finasteride , Chi Square = 9.54, p-value = 0.002 significant

Table 3: Contingency table of requirement of blood transfusions with respect to study groups

Blood Transfusions	Group A	Group B	Total
Yes	4(8%)	12(24%)	16(16%)
No	46(92%)	38(76%)	84(84%)
Total	50(100%)	50(100%)	100(100%)

Group A = With Finasteride ,Group B = Without Finasteride , Chi Square = 4.76, p-value = 0.029 (significant)

Table 4: Contingency table of postoperative clot retention with respect to study groups

Clot retention	Group A	Group B	Total
Yes	6(12%)	19(38%)	25(25%)
No	44(88%)	31(62%)	75(75%)
Total	50(100%)	50(100%)	100(100%)

Group A = With Finasteride ,Group B = Without Finasteride , Chi Square = 9.01 , p-value = 0.003 (significant)

Table 5: Contingency table of return visit to operation theatre with respect to study groups

	Group A	Group B	Total
Yes	0	2(4%)	2(2%)
No	50(100%)	48(96%)	98(98%)
Total	50(100%)	50(100%)	100(100%)

Group A = With Finasteride ,Group B = Without Finasteride, Chi Square = 2.041, p-value = 0.153 (in-significant)

Table 6: Contingency table of peri-operative bleeding complications with respect to study groups

Postop bleeding+	Group A	Group B	Total
Yes	6(12%)	19(38%)	25(25%)
No	44(88%)	31(62%)	75(75%)
Total	50(100%)	50(100%)	100(100%)

Group A = With Finasteride ,Group B = Without Finasteride , Chi Square = 9.01, P-value = 0.003 (significant)

DISCUSSION

It is evident that the statistical data of this study is in general comparable with those reported from the other international studies on the bleeding complications of TURP with and without preoperative short course of Finasteride. As the randomized trials have very large study population, so absolute comparison is difficult as the number of patients and their mode of presentation , method of study and projection of problems is different in different studies , series and countries. Recent studies by other researchers have shown that short term preoperative treatment with 5 alpha reductase inhibitors have a beneficial role to reduce post TURP hemorrhage^{15,16,17}.

The bias in this kind of study is as the bleeding associated with TURP not only depends on the preoperative use of Finasteride but also there are some other factors such as size of the prostate gland, length of the operation, and experience of the operating surgeon .Clot retention also depends on the quality and number of the 3-way Foly's catheter used for irrigation. In order to minimize the chances of bias in this study, patients with comparable prostate size were included in both groups, most of the operations were done by the same surgeon, and Foly's catheter of same number (No.24) and quality were used. The age recorded by the other researchers in different international studies is between 54 to 85 years which is to some extent comparable to our study (52 to 80 years).

In this study, overall in 23(23%) patients gross haematuria was noted; in which 5(5%) patients were from group A (Finasteride group) and 18(18%) patients were from group B (non Finasteride group).These results are comparable with RG Hann study¹⁷. These results of this study are better than the same kind of study conducted in India by R. Shanmugasundaram, J. Chandra Singh, and Nitin S. Kekre et al, in 2007¹⁸. If we sum up the results of all variables, it is concluded that in my study 25 (25%) patients out of 100 , perioperative bleeding complications (in terms of gross haematuria or transfusion requirement , clot retention or a return

visit to OT to control bleeding) associated with TURP were noted; in which 6(6%) patients were from group A (Finasteride group) and 19(19%) patients were from group B (non Finasteride group).The results of my study are a little better than the conducted by Hagerty JA, Ginsberg PC, Harmon JD, Harkaway RC. In which the patients pretreated with Finasteride, 1(8.3%) of 12 experienced perioperative bleeding while in the control group, 7 (36.8%) of 19 had an episode bleeding. No such kind of study is published locally to compare the results in our setup.

CONCLUSION

The study concluded that a short course of preoperative Finasteride reduces the bleeding complications of TURP. Thus, a short course of preoperative Finasteride should be recommended for every patient under going TURP to minimize the bleeding complications of TURP.

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