

## Original Research Article

# A study of prostatic fossa packing: a modified technique in Freyer's prostatectomy for achieving hemostasis

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## ABSTRACT

**Background:** Benign prostatic hyperplasia is one of the most common old age related benign tumor of urinary tract of men. Though now a day the gold standard treatment is only TURP, but this facility is still out of reach for majority of rural population of India. The rate of complications has come down heavily but still complete hemostasis remains a major concern for these patients.

**Methods:** This present study was conducted at the center from March 2014 to December 2016, the aim of present study was to see the effectiveness of bladder packing on blood loss, complications and comfort of patient in the cases of Benign prostatic hyperplasia (BPH) admitted at in patient department of surgery.

**Results:** A Total of 90 cases of BPH (Benign Prostatic Hypertrophy) were operated by Freyer's suprapubic transvesical prostatectomy. All the patients presented with symptoms of BPH. A detailed clinical history and examination of all patients was recorded and AUA (American Urological Association), International Prostate Symptom Score (IPSS) was calculated. On table clear urine was confirmed with naked eyes and no Foley's traction was given. After 72 hours of the surgery, pack was removed, saline irrigation was continued for 5 days. The patient was discharged on the 8<sup>th</sup> post-operative day after removal of stitches.

**Conclusions:** The prostatic fossa packing technique without any traction is effective in control of postoperative bleed, it is an acceptable option where transurethral resection of prostate (TURP) is not available.

**Keywords:** Benign prostatic hypertrophy, Complications, Hemorrhage, Supra-pubic prostatectomy

## INTRODUCTION

Benign prostatic hyperplasia is one of the most common old age related benign tumor of urinary tract of men.<sup>1</sup> Though now a day the gold standard treatment is only TURP, but this facility is still out of reach for majority of rural population of India, either due to unavailability of expertise and/ or equipment as author have to serve large amount of population.<sup>2</sup> The rate of complications has

come down heavily but still complete hemostasis remains a major concern for these patients. This is because the prostate is deeply situated in the pelvis and its blood supply comes from the deeper planes and procedure of Freyer's open prostate enucleation is a blind procedure. Present study was an attempt to develop a new technique by which near complete hemostasis can be achieved on operation table by packing prostatic fossa thereby compressing prostatic venous plexus and avulsed artery

this technique had an added advantage that it not only it reduces the hemorrhage effectively, but it also reduces patient discomfort associated with Foley’s traction on the thigh, which also restricts the post-operative movement of patient.

**METHODS**

This present study was conducted at the center from March 2014 to December 2016, the aim of present study was to see the effectiveness of bladder packing on blood loss, complications and comfort of patient in the cases of benign prostatic hyperplasia (BPH) admitted at in patient department of surgery, at Bundelkhand Medical College Hospital Sagar, India. An informed written consent from the patients was taken, and this study was conducted after approval by the Institutional Committee for ethics. The procedure was carried out under the supervision of senior surgeons.

All the patients presenting with symptoms of prostatism, between the age of 50-70 years and those who had given consent for study were included after ultrasonography report confirmation for benign prostatic hypertrophy were enrolled in the study.

Author excluded the patients from study, those who were not willing to take part in study, no prostatic enlargement on USG, patients on anti-hypertensives, blood thinning drugs like aspirin, clopidogrel, patients with Diabetes, patients on psychiatric illness, deranged kidney and liver function tests, abnormal Echocardiogram and any cardiac disease, age more than 70 years and less than 50 years.

A Total of 90 cases of BPH (Benign Prostatic Hypertrophy) were operated by Freyer’s suprapubic transvesical prostatectomy. All the patients presented with symptoms of BPH. A detailed clinical history and examination of all patients was recorded and AUA (American Urological Association), International Prostate Symptom Score (IPSS) was calculated. Complete blood count, Blood sugar, Kidney function tests, urine routine examination, HbsAG (Hepatitis B), HIV and Ultrasonography (USG) to know post void residual urine and prostate size were done. Serum PSA was done only if digital rectal examination was suspicious for malignancy.

Surgery, after making bladder full of normal saline under spinal anesthesia, a Pfannenstiel’s incision was made and abdomen was opened in layers. After opening bladder prostate was enucleated digitally and was supported by passing finger per rectally. A 22G Foley’s catheter was placed in the bladder and prostatic fossa was packed with the roller gauze and its one end brought out through anterior bladder wall, ant abdominal wall and bladder was closed, a record of blood loss was monitored by looking at urobag attached to catheter after the operation for continuous 72 hours. On table clear urine was confirmed with naked eyes and no Foley’s traction was given. After 72 hours of the surgery, pack was removed,

saline irrigation was continued for 5 days. The patient was discharged on the 8<sup>th</sup> post-operative day after removal of stitches.

**RESULTS**

In the present study, all the 90 patients of Freyer’s prostatectomy with procedure of prostatic fossa packing, author had chosen the patients with no comorbid conditions, in age group of 50 to 60 years there were 61 patients and in age group of 60 to 70 years it had 29 patients.

None of the patient required post-operative blood transfusion, not even a patient developed urinary fistula, but post-operative superficial wound infection was noted in 7 patients (7.77%) those were treated by daily dressings, two patient developed post-operative urinary incontinence, complication developed due to prostatic surgery as there was a damage to the urinary sphincter, none of the patients developed deep vein thrombosis. No patient required re-exploration because of the clot retention. All the patients post operatively managed on with antibiotics: Diclofenac Sodium was used as an analgesic till 3<sup>rd</sup> post-operative day and then as and when required. Only two patients required opioid for analgesia.

**Table 1: Age wise distribution of patients.**

Age of patients	No. of patients
50-60 years	61
61-70 years	29

**Table 2: Complications occurred after surgery.**

Complications	No. of patients
Nil	81
Superficial wound infection	07 (managed by dressing only)
Postoperative blood transfusion	Nil
Postoperative urinary incontinence	02
Postoperative urinary fistula	Nil
Postoperative deep vein thrombosis	Nil
Postoperative clot retention	Nil
Postoperative need for opioid analgesic	02

Total complication rate 9/90 (10%), only 2/90 (2.22%) are significant.

Long term follows up on 4<sup>th</sup> week and at the end of 6th months demonstrated good flow and satisfactory IPSS score.

**DISCUSSION**

McGill and Belfield described suprapubic transvesical partial enucleation of prostate in the late 18<sup>th</sup> century. Fuller and Freyer popularized the technique of complete enucleation of the gland.

In the present study the age of occurrence rate of BPH in age groups were, 50- 60 was 61(67.77%) and 60-70 was 29 (32.22%). In the Chinese study done by Wang et al the occurrence rate of BPH was in age groups of 40-49 years was 2.9%, 50-59 years 29%, 60-69 years 44.7%, 70-79 years 58.1 and 80 years and older was 69.2%.<sup>3</sup> The prevalence rate increases with the age. In a Korean study, there were 2 patients (4.4%) in the 40-49 years group, 18 patients (10.9%) in 50-59 years group, 44 patients (22%) in the age group of 60-69 years group and 56 patients (26.6%) above the age of 70 years.<sup>4</sup>

The prevalence of BPH was 21.0% overall: 11.6% among subjects aged 50 to 59 years, 18.1% for those aged 60 to 69, 30.8% for those aged 70 to 79 and 50.8% among those aged 80 years or more. Compared with previous studies in urban or rural areas, the prevalence was slightly lower.<sup>5</sup>

But hemostasis was always a problem in any age as the bleeders were not visible directly, after making better visualization by retracting the bladder neck at the prostatic fossa by non-absorbable suture at bladder neck was demonstrated by Lower and Harris and modified by Hryntschak in 1951. Malement claimed that removable partition suture in case of excessive bleeding.<sup>6-8</sup>

The average post-operative blood loss in present study was insignificant, all the patient in this study group had lesser blood loss, urine had no stain or colour of blood and none of the patient in this study group required post-operative blood transfusion. Naninga and O'Coner in their study noted blood loss more than 100 ml in 15% patients by balloon traction technique.<sup>7</sup>

Sheen and Quinlan used early suture control at 3 O'clock and 9 O'clock for achieving hemostasis with an average blood loss of 841ml.<sup>9,10</sup> This is significantly higher than present study. Moon reported a blood transfusion rate of 83.3% in patients undergoing Freyer's prostatectomy when standard technique was used while in present study post-operative blood transfusion was 0%, which means author did not transfused blood in single patient in present study group.<sup>11</sup>

Prostatic fossa packing technique is not only effective in controlling the hemorrhage, but it is more comfortable for patient by avoiding traction over thigh. Patient is able to move his limb once the effect of anesthesia is over thus reducing the complication of leg vein thrombosis. The rate of post-operative thrombosis was 0% in present study.

## CONCLUSION

The prostatic fossa packing technique without any traction is effective in control of postoperative bleed as

well as it is more patient friendly by avoiding need for Foley's traction over thigh. Thus, Freyer's prostatectomy with post-operative prostate fossa packing technique is an acceptable option where facility for TURP is not available.

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## REFERENCES

1. Presti JC. Neoplasms of the prostate gland. In: Tanagho EA, McAnich JW, editors. *Smith's general Urology*. International Ed. McGraw-Hill: 2000:399-442.
2. Schatzl G, Madersbacher S, Djavan B. Two-year results of transurethral resection of the prostate versus four "less invasive" treatment options. *Eur Urol*. 2000;37:695-701.
3. Wang W, Guo Y, Zhang D, Tian Y, Zhang X. The prevalence of benign prostatic hyperplasia in mainland China: evidence from epidemiological surveys. *Scientific reports*. 2015;5.
4. Goh HJ, Kim SA, Nam JW, Choi BY, Moon HS. Community-based research on the benign prostatic hyperplasia prevalence rate in Korean rural area. *Korean J Urol*. 2015;56(1):68-75.
5. Huh JS, Kim YJ, Kim SD. Prevalence of benign prostatic hyperplasia on Jeju Island: analysis from a cross-sectional community-based survey. *World J Men Health*. 2012 Aug 1;30(2):131-7.
6. Shahapurkar VV, Khare N, Deshmukh AV. Modified technique in Freyer's prostatectomy to achieve hemostasis. *Indian J Urol*. 2009;25(3):332.
7. Stutzman RE, Walsh PC. In: *Suprapubic and retropubic prostatectomy*. 6<sup>th</sup> Ed. Walsh PC, Retik AB, Stamey TA, Vaughan ED Jr, editors. Philadelphia: W.B. Saunders Co; 1992:2851-2856.
8. Meier DE, Tarpley JL, Obioha O. The outcome of suprapubic prostatectomy: A contemporary series in the developing world. *Urol*. 1995;46:40-4.
9. Naninga JB, Vicent J. O'Conor Suprapubic prostatectomy: A review. *J Urol*. 1972;108:453-4.
10. Shaheen A, Quinlan D. Feasibility of open simple prostatectomy with early vascular control. *BJU Int*. 2004;93:349-52.
11. Moon HJ, Kim CK, Yoon JB. Clinical study of prostatectomy. *Korean J Urol*. 1970;2:57-62.

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