

OUTLOOK OF MILLIN'S PROSTATECTOMY

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ABSTRACT

Objective: To evaluate the short term complications and cost-effectiveness of Millin's prostatectomy.

Materials and methods: Fifty patients of benign prostatic hyperplasia (>80 gms of prostate) with signs and symptoms of bladder outlet obstruction were included in this study (during 12 months i.e. November 1st, 2004 to October 31st 2005). All patients planned for retropubic prostatectomy were those admitted in Surgical B unit of the Lady Reading hospital Peshawar. After informed consent from all patients for clinical examination and investigations, the diagnosis was made on the basis of history, digital rectal examination and ultrasonography which was used to assess the back pressure effects (bilateral hydronephrosis and bladder wall thickness), prostate size and volume of residual urine. Cystoscopy was done in all cases to rule out pathology other than BPH. For the patients to be included in the study they had to have benign prostatic hyperplasia (>80 gms of prostate) on ultrasonography and signs and symptoms of bladder outlet obstruction as determined by digital rectal examination. Patients having; smaller prostate size and manageable with TURP, uraemia, past history of prostate surgery, Ca prostate and bladder pathology were not considered as participants of this study. Data were collected using a proforma and analyzed using SPSS version 10.

Results: Two (4%) patients had clot retention which was relieved by washing through the urethral catheter with normal saline. Three (6%) patients had transient incontinence managed by reassurance and pelvic floor muscle strengthening exercises, with no residual incontinence after 06 weeks of surgery. Three (6%) patients had superficial wound infections which were treated with antibiotic after culture and sensitivity. Two (4%) patients developed epididymo-orchitis within 2-3 weeks of surgery, which were treated conservatively with antibiotic. No operative or post operative mortality occurred.

Conclusion: The findings of this work indicate retropubic prostatectomy as an acceptable procedure. Complications if any could be managed with minimum number of normal saline drips for bladder wash with reduced patients stay in hospital.

Key words: Millin's Prostatectomy, Benign prostatic hyperplasia.

INTRODUCTION

Benign enlargement of the prostate gland is common with increasing age¹. The clinical presentations are usually nocturia associated with hesitancy, urgency, decrease in size and force of stream, intermittent terminal dribbling or acute urinary retention². Frequent pathologies associated with prostate are prostatitis, benign prostatic hyperplasia and carcinoma of prostate³. Benign prostatic hyperplasia occur in men over 50 years of age, by the age of 60 years 50% of men have histological evidence of BPH and 15% have significant lower urinary tract symptoms⁴.

BPH is usually diagnosed by DRE and ultrasound but to differentiate it from other conditions, cystourethroscopy should be done before embarking on prostatectomy. Urodynamic study plays a main role in the diagnosis of BPH and to differentiate it from other clinical conditions like detrusor muscle instability, weak contractility and neuropathic bladder⁵. A typical history and flow rate less than 10ml / second will be sufficient for most urologists to recommend treat-

ment.

More than 2000 years ago, surgeons devised and employed a median perineal incision for the removal of bladder calculi. In the first century AD. Surgeons used a semi elliptical incision in the perineum for partial removal of the prostate¹⁹. Pierre of Lausanne performed first supra-pubic cystostomy in 1561 he removed a vesicle calculus. Amussat of France performed first partial prostatectomy in 1827¹⁸.

The management of BPH has undergone major changes in the last thirty years in the developed countries. In the early seventies more than half of prostatectomies were open procedures. Twenty years latter over 90% prostatectomies are done transurethrally. Since 1990 the range of treatment for prostatic hyperplasia has broadened. Treatment modalities include TURP⁴, Transvesical prostatectomy⁴, Retropubic prostatectomy⁴, Extraperitoneal laparoscopic prostatectomy⁶, Transurethral vapourisation of prostate⁷ and minimal invasive procedure like Transurethral microwave therapy⁸, Transurethral needle ablation⁹, Lasser ablation⁸, High intensity focused ultrasound¹⁰, Prostatic stent¹¹ as well as drugs like alpha blockers and alpha reductase inhibitors¹²⁻¹⁶. Retropubic prostatectomy is the enucleation of a hyperplastic adenoma

through a direct incision of the anterior prostatic capsule. The procedure dates to 1945, when Terrence Millin first reported his experience with 20 patients¹⁸.

OBJECTIVE

To find the frequency of short term complications and cost-effectiveness of Millin's prostatectomy.

MATERIAL AND METHODS

This one year duration prospective study (November, 2004 to October, 2005) was carried out in the Department of Surgery, Lady Reading Hospital, Peshawar by including 50 admitted patients with benign prostatic hyperplasia. After taking informed consent from all the patients, they were examined and investigated. The diagnosis was made on the basis of history, digital rectal examination (DRE) and ultrasonography to assess the size of the prostate and residual volume of urine. Cystoscopy was also done in all cases to rule out pathology other than BPH. All patients who were included in this study had prostate size more than 80 grams (assessed by DRE and ultrasonography) and presented with signs and symptoms of bladder outlet obstruction. Patients with past history of prostatic surgery (TURP or open prostatectomy), patients with smaller prostate size (ideal for TURP), uraemia or with associated bladder pathology and patients not willing for open prostatectomy were excluded from the study. Patients who gave history of trauma to lower renal tract specially urethra and urinary bladder, history of surgery on lower renal tract, and those patients in whom U/S, DRE and cystoscopy did not reveal prostatic hypertrophy though they presented with symptom of bladder outlet obstruction were excluded from the study.

Uroflowmetry Hemoglobin (Hb) level, blood urea and serum creatinine level were also done in all cases. Patient who had Hb less than 10 gram per deciliter were transfused blood preoperatively. Urine routine examination as well as x-ray chest and KUB were done. Other relevant investigations were carried out to assess cardiopulmonary function. All the patients were operated in the general surgical operation theater on regular basis. All the operated patients were observed in the ward for any post operative complication. Extra vesical drain was removed on 1st post operative day and urethral catheter on 3rd post operative day. After removing the catheter, all the patients were retained in the ward for 24 hours, to see whether they can easily pass urine or otherwise. This was recorded by interviewing the patients about incontinence and stream. Follow up visits are at 3 and 6 weeks.

The cost effectiveness of the technique was assessed by counting the number of normal saline drips used for bladder wash and stay in the hospital.

The parameters which were used to assess complications included

1. Observing temperature record, wound and scrotal examination, watching per urethral normal saline wash and looking for urinary incontinence after catheter removal.

2. And at 6 weeks follow up no residual incontinence was observed.

RESULTS

The patient's age ranged from 58-86 years with the mean age as 67.5 ± 9.67 (SD).

Out of these 50 patients, two (4%) patients had raised blood urea at the time of admission. These 2 patients were initially catheterized and kept on drainage for 4-6 weeks at home, and upon satisfactory levels of blood urea and creatinine, they were operated.

Regarding associated problems only 4 (8%) patients had single bladder stone ranging from 1 to 2.5cm in size which were removed at operation. Seven (14%) patients with unilateral inguinal hernia also underwent preperitoneal repairs.

The various post operative complications showed that transient incontinence and wound infection were the leading complications followed by clot retention and epididymo-orchitis. There was no mortality observed. Complications were managed by reassurance and pelvic floor muscle strengthening exercises and at 6 weeks follow up no residual incontinence was observed. Three (6%) patients had superficial wound infection which was treated with antibiotic after culture and sensitivity. Two (4%) patients had epididymo-orchitis within first month of surgery, which were treated conservatively with antibiotics. No operative or post operative mortality recorded (Fig 1).

Hospital stay ranged from 5 to 10 days. Only 4 (8%) patients stayed for 5-10 days due to wound infection and epididymo-orchitis. All others 46 (92%) patients were discharged on 4th post operative day.

The numbers of normal saline drips used for bladder wash ranged from 10-15 with average of 13 drips per patient which along with short hospital stay and lower complication rates confirms the cost effectiveness of the procedure.

Regarding blood transfusion during and after

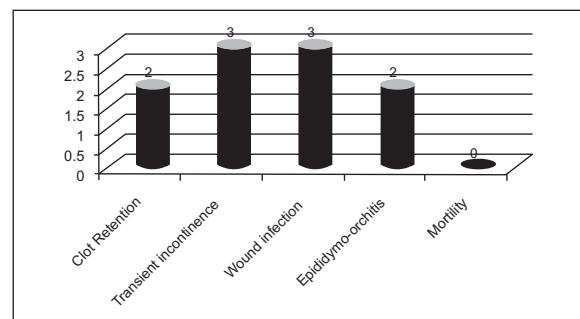


Fig no. 1 postoperative complications

the operation, only 2(4%) patients were transfused 1 unit of blood during operation and one patient was transfused 2 units of blood postoperatively. These results show that in Millin's prostatectomy there is minimum chance of bleeding, because all the bleeding vessels are ligated cauterized under direct vision.

DISCUSSION

In spite of availability of the various techniques for prostatectomy, hemorrhage still remains a major concern for surgeons. It is common in patient with benign prostatic hyperplasia to have age related associated medical disease. Some of these may be severe enough to preclude the patient from undergoing prolonged surgery and anesthesia. Especially in this age (maximum between 60-70years) an easy technique performed in relative short time with good haemostatic control is essential. Packing of the prostatic fossa with roll guaze was a routine procedure for haemostasis, after removing the prostatic adenoma in the past. This was commonly practiced in Europe as well as in United State of America, as late as 1949.¹⁹ Various modifications to achieve haemostasis like hemostatic stitches and bladder neck plication of the prostatic capsule or compression with bags have been practiced in Freyer's prostatectomy. The most important advantage of Millin's prostatectomy is that all bleeders are controlled under direct vision so there is little chance of hemorrhage during and after the procedure.²⁰

Benign prostatic hyperplasia is a common problem of aging male population. Mean age in this series was 67 years. A direct relationship does not exist between prostate size and symptoms severity or bladder outlet obstruction.²¹ Forty (80%) of our patients presented with acute urinary retention and they seemed to have ignored the irritative symptoms.

In the present study, out of 50 patients, 03 (6%) patients experienced transient incontinence. 02 (4%) patients had clot retention, 03 (6%) patients had wound infection, 02 (4%) patients developed epididymo-orchitis. No operative or post operative mortality was recorded. Comparable results have been reported in another study conducted locally in which 7.4% patients had wound infection and 5.5% patients had clot retention²². Similarly another study conducted in Pakistan in 2001 had reported results with 140 patients who underwent Millin's prostatectomy with overall complication rate of 2.5%²³. A comparative study between retropubic and transvesical prostatectomy reported better results of Millin's prostatectomy, as the complication rate was more in transvesical prostatectomy²⁴.

A study conducted in the Republic of Ireland in 2002 has reported result of 37 patients who were operated by Millin's technique. They concluded that retropubic prostatectomy with early vascular control reduces the amount of blood loss, rendering it a safe option for treating BPH²⁵. The post operative complications of present study were comparable to French

prospective study of TURP performed by 14 selected and experienced urologists with minimum of 12 years experience doing TURP²⁶. Over all mortality in this particular study was 0% as compared to the figures of 0.5-2.67% in Pakistan and 4% abroad²⁷.

Reoperation rate after TURP is more than retropubic prostatectomy which is more complete²⁸. In one study 1221 patients undergoing TURP for symptomatic BPH between 1988 and 1991 were evaluated after follow up of ten years. In this study reoperation rate was 6%¹⁸. In another study after a follow up of ten years the reoperation rate was 20%². On the other hand systemic stress response to surgery is less in TURP as compared to other operative procedure for BPH³⁰.

In our set up due to lack of expertise, ancillary facilities and limited resources most of our patients still undergo open prostatectomy by general surgeons but is still an effective method of relieving obstruction due to BPH²⁷. The transvesical prostatectomy was first carried out by Eugene Fuller in 1894 and later popularized by Freyer in 190.²¹ This type of prostatectomy is the most popular among general surgeons throughout Pakistan. The mortality rate of open prostatectomy has averaged 2.67%.²⁷

Retropubic prostatectomy which is also called Millin's prostatectomy is the enucleation of prostatic adenoma through a direct incision over prostatic capsule with out opening the bladder. Further more any bladder calculi (small to moderate size) can be treated simultaneously during Millin's prostatectomy. If the patient has inguinal hernia it can be repaired through the same incision.²⁸ Patient with small bladder capacity and those with skeletal disorder in whom lithotomy position is difficult to make in TURP are also suitable for Millin's prostatectomy.

CONCLUSION

Retropubic prostatectomy proved as an acceptable procedure. Blood loss and complication rate was less. There was no trauma to bladder so its capacity was not compromised. Patients did not depend on various drains for long and were mobilized indicating less chance of deep venous thrombosis. It was found cost effective because of minimum number of normal saline drips for bladder wash and a short hospital stay.

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