MEDICAL CHANNEL

Original Article

PROSTATIC HYPERTROPHY – OPEN PROSTATECTOMY A REVISIT

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ABSTRACT:

Objective: To evaluate the outcome of open prostatectomy in our setup.
Methodology: This prospective descriptive study was conducted in the Department of Surgery, Liaquat University Hospital form June 2007 to December 2009. A total of 32 patients who visited OPD or emergency department with International Prostate Symptom Score of 20-35 were enrolled in this study after obtaining informed consent.
Results: A total of 32 cases were selected for this study as per inclusion criteria. Among those 28 patients (87.5%) were operated by open prostatectomy with transvesical approach, while 4 patients (12.5%) had open prostatectomy with retropubic approach. Few patients had postop wound complication which include wound dehiscence which was observed in one patient (3.12%), hematuria and abscess also seen in one patient (3.12%), Seroma collection and calculi was seen in 2 patients only (6.25%).
Conclusion: Open prostatectomy was found to have substantial complication as compared with other minimal invasive options available; however the morbidity can be controlled by optimizing the surgical techniques and postoperative management of patients.

Keywords: prostate resection, prostatectomy, open prostatectomy.

INTRODUCTION:

Prostatic enlargement is an ancient issue face by men which has severely disturbed daily life routine of men due its symptoms. As with rest of globe, Pakistan is not an exception for patients with prostatic hypertrophy (PH), which is chief reason for bladder neck obstruction symptoms and urination in old age males.[1]

Increased age and androgens are thought to be main elements causing prostatic hypertrophy, on histopathology films one can observe the increase of glandular and stromal part, it is observed that the glandular part of prostate is largely increased as compared with stromal part; this hyperplasia usually circulates the urethra in the transition zone, hyperplasia of this region. By the passage of time the enlarged portion compresses the urethra resulting in bladder neck obstruction symptoms. As a result of this compression patients may end up having acute or chronic retention of urine which is sometimes associated with hematuria as well as infection.[2]

In cases of prostatic hypertrophy where patients are having mild symptoms, it is advisable to actively monitor and follow such patients. Small to medium size prostate resulting in moderate symptoms can be treated conservatively including alpha blocking agents, 5 alpha reductase inhibitors and phytotherapy or minimal invasive surgery.

Patients having sever symptoms are best treated by surgeries like transurethral resection of prostate (TURP) or open prostatectomy specially those having chronic infection, acute retention of urine, renal symptoms due to enlarged prostate, major hematuria persistent or recurrent UTI[3]. A number of minimal invasive surgical procedures like Visual Laser Ablation (VLAP), Transurethral Incision of Prostate (TUIP), Electrovaporization of Prostate (EVP), Transurethral Microwave Thermotherapy (TUMT) and many more are practiced globally.[4]

TURP is considered as the treatment of choice for PH. In the western world and has a larger acceptance globally, however in facilities of underdeveloped countries open prostatectomy is still practiced due to due to various reason including lack of facilities available for TURP, massive size of prostate presence of calculus.[2,4]
Various approaches can be used for open prostatectomy including supra or retropubic approach. A number of procedures are also obsolete now like perianal, in patients having concomitant bladder pathology; suprapubic prostatectomy is the procedure of choice which is also known as transvesical prostatectomy. Once the bladder is approached and opened, a semicircular incision is made in the bladder mucosa distal to trigon. A sharp dissection is started followed by blunt dissection to remove adenoma saving the distal sphincteric mechanism. It is crucial to attain hemostasis at this stage with ligatures; catheter placement and suprapubic drain before closing the surgically created wound. Whereas in simple retropubic prostatectomy, surgical capsule of prostate is approached by the transvers incision and bladder is not opened once the adenoma is enucleated the catheter is placed in.
The effectiveness and safety profile of TURP is much more than open prostatectomy for patients having small fibrotic prostate, especially in terms of early return to work, fewer postoperative complications and economical aspect of the procedure.[3,5]
Open prostatectomy is frequently performed procedure in under developed countries and considered as a suitable alternative of TURP for patients of prostate hyperplasia. This audit was conducted to review the outcome of open prostatectomy to reaffirm its effectiveness.

METHODOLOGY:

This prospective descriptive study was conducted in the Department of Surgery, Liaquat University Hospital form June 2007 to December 2009. A total of 32 patients who visited OPD or emergency department with International Prostate Symptom Score of 20-35 were enrolled in this study after obtaining informed consent.
Patients with calculi or diverticula, acute urinary retention, renal insufficiency, hematuria, recurrent or persistent urinary tract infection were included in this study. Patients having small fibrotic prostate, history of previous prostatectomy, and suspicion of prostatic carcinoma or any other comorbidities were excluded from this study. All patients were operated under general anesthesia through a suprapubic or retropubic approach. All relevant and study variables were noted on a pre designed proforma. Descriptive Statistical analysis was done by SPSS 17.

RESULTS:

A total of 32 cases were selected for this study as per inclusion criteria. Among those 28 patients (87.5%) were operated by open prostatectomy with transvesical approach, while 4 patients (12.5%) had open prostatectomy with retropubic approach. (Table I)
Age range of patients varied from 47-83 years with 63 years of mean age. Majority of patients belonged to age group of 50-70 years. Duration of hospital stay was 4-8 days with mean of 6 days.
Early complications were dominated by UTI, which was seen in 7 patients (21.87%) followed by secondary hemorrhage which was seen in 4 patients (12.5%). Urinary incontinence was seen in 3 patients (9.37%). Primary hemorrhage was seen in only one patient (3.12%) whereas reactionary hemorrhage and urinary extravasation was also seen in one patient (3.12%) only. (Table II)
A few of patients has late complication also. Urethral stricture was seen in 4 patients (12.5%) were as retrograde ejaculation was also seen in 4 patients (12.5%). Bladder neck stenosis was seen in only one patient (3.12%) (Table III)
Few patients had postop wound complication which include wound dehiscence which was observed in one patient (3.12%), hematuria and abscess also seen in one patient (3.12%), Seroma collection and calculi was seen in 2 patients only (6.25%)

DISCUSSION:

Prostatectomy is still considered as the treatment and acceptable option for patients of prostatic hypertrophy despite of fact that there are many techniques and procedures introduced in minimal invasive surgery which are time tested and have proven their effectiveness in terms of fewer complications good postop results and overall satisfactory improvement in symptoms of Prostatic hypertrophy.[6]
Before the era of minimal invasive surgery, open prostatectomy was procedure of choice for benign prostatic hyperplasia (BPH) with introduction of Trans-Urethral Resection of Prostate (TURP) surgical approach of surgeons is changed greatly.[3,5] In view of recent published literature TURP is now considered as gold standard treatment of BPH and is the most frequently performed procedure in the western world. However in patients with massive prostatic hypertrophy it usually takes prolonged duration for resection hence are preferred to be candidates of open prostatectomy, also open prostatectomy is preferred in patients having vesicle calculi or diverticula.[7]
In this study a total of 32 patients were included and operated by open prostatectomy, out of which 28 were operated by transvesical prostatectomy and remaining 4 were operated by retropubic prostatectomy. Patients having small mass were referred to urology department for TURP. Majority of the patients were having age between 50-70 years which is also observed in other studies conducted nationally.[8]
A few of patients in this study also had complications like UTI (21.8%) were found to be the commonest early complication followed by secondary hemorrhage (12.5%). A same frequency of such events is also reported by other authors as well,[9,10] which is an alarming situation due to infection and hygiene issues.
Wound complications are also frequently observed in patients of open prostatectomy and same was observed in our study, and reported by other authors in literature.[11] Its reported in recent published literate that multiple attempts of urinary catheter insertion is one of major factors responsible for wound complications which can be overcome by reducing the multiple attempts of catheterization.[8,12] Treating the urinary tract infection if present and judicious use of pre and postoperative antibiotics. Four patients (12.5%) in this study had secondary hemorrhage and approximately same frequency was observed by other authors as well like Baloch et al (14.28%) and Memon et al (11%). Other authors attributed this decrease number to good hemostatic management and same was case in our study also.[6]
In this study no suprapubic fistula was observed. However cases of suprapubic fistula are reported by Baloch et al [2] and Memon et al [1]. Majority of cases of suprapubic fistula are reported in patients operated with open prostatectomy by transvesical prostatectomy.
In this study we found that 9.37% of patients had urinary

TABLE I
PROCEDURES PERFORMED IN PATIENTS OF PROSTATIC HYPERTROPHY

	Number of patients	Percentage (%)
Open Prostatectomy with transvesical approach	28	87.5
Open Prostatectomy with retropubic approach	4	12.5

TABLE II
EARLY COMPLICATIONS

	Number of patients	Percentage (%)
Primary hemorrhage	1	3.12
Secondary hemorrhage	4	12.5
Reactionary hemorrhage	1	3.12
leakage of urine	1	3.12
Urinary incontinence	3	9.37
UTI	7	21.87

TABLE III
LATE COMPLICATIONS

	Number of patients	Percentage (%)
Urethral stricture	4	12.57
Retrograde ejaculation	4	12.57
Bladder neck stenosis	1	3.12

TABLE IV
POSTOPERATIVE WOUND SITE COMPLICATIONS

	Number of patients	Percentage (%)
Dehiscence	1	3.12
Hematuria	1	3.12
Seroma collection	2	6.25
Abscess	1	3.12
Cellulitis	2	6.25

incontinence which is also reported in other studies.[13] The incidence of urinary incontinence quite low especially Baloch et al [2] reported 3.57% with urinary incontinence and Memon et al reported 3%.[1] It is advised that the patients having urinary incontinences may be best treated conservatively, hence in this study all patients having urinary incontinences were managed conservatively. As the patients selected for this study went through routine physical fitness by department of anesthesia, hence no mortality occurred.

All few cases had late complications in which urethral stricture and retrograde ejaculation were the comments reported in 12.54% of patients each. Only one patient had bladder neck stenosis (3.12%). Baloch et al[2] has reported 5.35% of cases with retrograde ejaculation. In our study only patient had bladder neck obstruction (3.12%), it is reported by authors that trigonoplasty if not performed by experienced surgeon can result in bladder neck stenosis. It was also found in this study that retropubic approach produces very excellent results and has fewer complications postoperatively.

TURP is considered as procedure of choice in western world and has very few postoperative complications and short hospital stay.[14] It is also reported that urinary outflow is best improved with TURP and other symptoms of PH are also greatly improved with TURP. Open prostatectomy is found to have larger scale of complication that observed with TURP and it is more invasive and associated with morbidity.[15] It is also associated with increased postop discomfort and increased duration of hospitalization which is burden on public resources.

In this study no other fatal complications like pulmonary or deep vein thrombosis observed, also there was no mortality. Most of complications observed in cases of open prostatectomy are attributed to wound and suprapubic urinary leakage which results from abdominal incision. So the complications of open prostatectomy are generally incisional and hence can be comparable to TURP.

CONCLUSION:

Open prostatectomy was found to have substantial complication as compared with other minimal invasive options available; however

the morbidity can be controlled by optimizing the surgical techniques and post operative management of patients. However; in such centers where facility of TURP is not available open prostatectomy still offers substantial help in treatment of patients with prostatic hyperplasia.

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