Results of a modified Transvesical Prostatectomy — A Review of 100 cases

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Operations for benign enlargement of the prostate are common in all the General Hospitals of the country. There has been no review of the results of operative treatment for enlarged prostates. The present study is an evaluation of 100 consecutive cases of a modified transvesical prostatectomy done in the Department of Urology and Nephrology at the General Hospital, Kuala Lumpur between the years May 1970 and May 1974.

Mode of Presentation

Patients age ranged from 50 to 90 years with an average age of 66.3 years. The community distribution is shown in Table I.

TABLE I

COMMUNITY DISTRIBUTION		
Chinese		42
Malays		26
Indians		29
Others		3

The patients presented with a variety of symptoms. Seventy of the one hundred patients presented with acute retention and nineteen with haematuria The others had symptoms of prostatism. Many of these patients had been catheterized either by their General Practitioners or in another hospital. Some of the patients had catheter drainage of the bladder for over two weeks.

Amongst associated diseases, vesical calculi was the most common. The other associated diseases are listed in Table II.

TABLE II

ASSOCIATED DISEASES		
Urinary calculi		23
Lung diseases		20
Diabetes mellitus		14
Hypertension		10
Ischaemic Heart disease		8
Hernia		8
Haemorrhoids		7
Epididymo-orchitis		2
Duodenal ulcer		1

Three patients required vesicolithotomy, while another three had suprapubic cystostomy because of false passage in the urethra caused by attempted dilatation and catheterization prior to admission to the Urology ward.

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Method

A patient was considered suitable for open prostatectomy if the gland was estimated by rectal examination to weigh more than 40 gms. In a few cases the rectal examination was found to be incorrect and the prostate at operation was much smaller. Transvesical prostatectomy was also preferred in cases where a patient had a small calibre urethra, urethral stricture and large bladder stones.

The following routine preoperative investigations were carried out haemoglobin, urine culture, blood urea, serum acid phosphatase, plain abdominal X-ray, chest X-ray and electrocardiogram. In some of the patients serum creatinine, intravenous pyelogram and panendoscopy were also done. Patients with associated medical diseases were referred to the medical unit. Postoperative antibiotics was given to all patients.

Spinal anaesthesia is the anaesthetic of choice in the Unit, but some patients were operated under general anaesthesia. Spinal anaesthesia gives better muscular relaxation and there was less operative and post-operative bleeding.

The operative procedure is basically a Wilson Hey transvesical prostatectomy (1). The Pfannenstiel skin incision was made in the majority of patients, but in some the midline incision was used. The bladder was opened and after the mucosa over the adenoma was incised with diathermy the gland was enucleated. Tissue tags were excised with diathermy and the prostatic fossa packed with a roller gauze. From May 1970 the senior author had modified the procedure for haemostasis and reconstruction of the prostatic bed by suturing the torn mucosal membrane of the bladder to the posterior prostatic capsule. Plain catgut sutures are commenced from the 6 o'clock position. On the left side the continuous suture is applied up to the 9 o'clock position. Using a new suture and again commencing from the 6 o clock position, a similar continuous suture was applied up to the 3 o'clock position (Fig 1).

Other bleeding points in the anterior part of the bladder neck were coagulated or sutured. Good haemostasis was obtained by this technique, thus reducing operative blood loss. A F22 Foley urethral catheter was introduced and the balloon blown up to 15 to 20 ml and traction applied on the catheter while the bladder was closed. The bladder was closed with 2 layers of catgut after leaving a DePezzer cystostomy tube through a stab wound

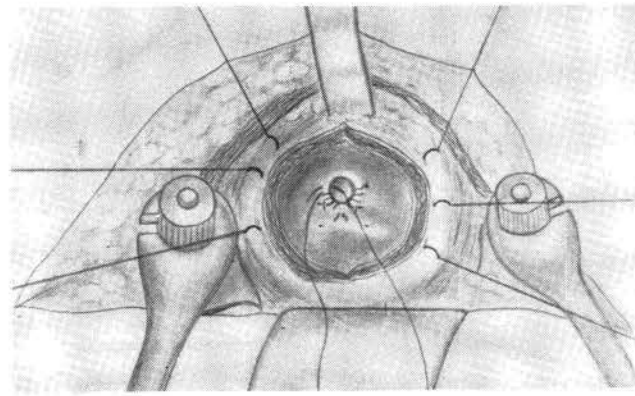

Fig. I

in the dome of the bladder. A Penrose drain was placed in the space of Retzius and the abdominal wound was closed in layers. No vasectomy was done on our patients.

Postoperatively, continuous bladder wash out was done via a closed irrigation system using normal saline. After 24 hours when the bleeding had decreased, both catheters were connected to closed bed side drainage systems and the cystostomy tube was removed four to six days postoperatively. If there was no suprapubic urinary leakage over the next two or three days, the urethral catheter was removed. The Penrose drain from the space of Retzius was removed two days after the removal of the suprapubic catheter.

75 patients were operated under spinal anaesthesia, while 25 were done under general anaesthesia.

No direct measurement of blood loss was carried out. The transfusion rate can be considered a crude assessment of total blood loss. 89 patients required blood transfusion and the average amount of blood used was 1.3 pints per patient. Most patients required one pint each while two patients required four pints as shown in Table III.

TABLE III

TRANSFUSION RATE		
No blood required		11
1 pint		56
2 pints		26
3 pints		5
4 pints		2

During prostatectomy eight patients had vesical calculi removed, one patient required a ureterolithotomy, one required a diverticulectomy and another required a circumcision.

The weight of the glands removed ranged from 10 gms to 150 gms with an average 45.6 gms. This compares favourably with the recent series by Nicoll (2). Four of the glands were reported as containing foci of adenocarcinoma while the rest were reported as benign prostatic hyperplasia.

Post-operative complications

Post-operative stay ranged from 8 - 38 days with an average of 16.8 days. Prolonged suprapubic leakage and wound infection were the most common causes for prolonged hospital stay. Table IV lists the early post-operative complications.

TABLE IV

Early Post-operative Complications		
Prolonged suprapubic leakage		40
Wound infection		24
Impaired control of voiding		15
Epididymo-orchitis		10
Prolonged haematuria		7
Secondary haemorrhage		7
Septicaemic shock		4
Paralytic ileus		2
Inability to void		2
Mental confusion		2

The four patients with septicaemic shock were successfully treated with hydrocortisone and gentamycin. Patients with very severe haematuria and secondary haemorrhage required endoscopic or open clot evacuation and blood transfusion. None of them had any blood coagulation defects. Table V shows the late post-operative complications.

TABLE V

Late Post-operative Complications	
Urethral stricture	2
Contracted bladder neck	2
Meatal stenosis	1
Incisional hernia	1

Results

Mortality rate was one percent in this series (1 death in 100 cases) and death in this case was due to myocardial infarction on the second day. 90 patients came back to our clinic for follow-up and follow-up period ranged from six weeks to one year, with an average of three months. Most complained of nocturia and dysuria in the early weeks and about 60 percent had pyuria for up to three months. As seen in Table V late post-operative complications were very few. 85 patients said that they had a good voiding stream.

Discussion

The modified technique of suturing the bladder mucosa to the prostatic capsule has been found to reduce blood loss. Average blood transfusion rate was only 1.3 pints. It is felt that the suturing of the prostatic capsule to the bladder mucosa establishes physiological continuity of the prostatic urethra and this has contributed not only to a good urinary stream but also to a very minimal number of cases of urethral stricture at the bladder neck.

Poor wound healing, infection and prolonged suprapubic leakage occurred most commonly in diabetic and very elderly patients. There was high incidence of secondary haemorrhage, epididymo-orchitis, and septicaemia in patients who were on prolonged catheter drainage prior to operation. The most common and dreaded gram-negative organisms that were cultured were Pseudomonas and Proteus which fortunately were controlled with the use of gentamycin. Recently, though, some resistant strains of Pseudomonas have been cultured.

The patient who had an incisional hernia had a suprapubic midline skin incision. None of the patients who had a Pfannenstiel skin incision developed incisional hernia.

Only two patients developed urethral strictures which were situated in the penile urethra and at the penoscrotal junction. One required urethrostomy while the other stricture was easily dilated. One patient developed meatal stenosis for which a meatotomy was done. The incidence of urethral strictures and contracted bladder neck following transurethral resection of the prostate is 5 percent (3).

Although 15 patients had impaired control of voiding in the post-operative period following removal

of catheter and in the early follow-up period, none of them developed true incontinence. They all improved with perineal and sphincteric exercises. After transurethral resection a small percentage (4 percent) may develop true incontinence when the external sphincter is damaged (4).

Summary

A review of 100 cases of transvesical prostatectomy using a modified technique for the reconstruction of the prostatic floor after enucleation of the prostate is presented.

Post operative complication, the length of hospital stay, and the long term follow up of these cases is discussed.

Transvesical enucleation of the prostate with suture of the bladder neck to the prostatic capsule is shown to be a safe and an effective method for dealing with benign enlargement of the prostate.

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