Comparative study between "T.U.R.P." and retropubic resection of benign prostatic hypertrophy (Millin's)

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Abstract

The safety and efficacy of (T.U.R.P.) and Millin's prostatectomy in the treatment of patients with prostatic hypertrophy was investigated. From December 2001 – December 2002. Consecutive "30" unselected patients with prostatic hypertrophy included in this study. Patients preoperatively evaluated by (A.U.A.) sorinng system, U. /S., GUB, C.B.P., and Biochemical blood testes. Fifteen patients undergone "T.U.R.P.", and fifteen patients undergone Millin's prostatectomy. Both groups followed for (40 weeks) by (A.U.A.) scoring system, U./S.& Urine C./S. The big size prostate gland treated by Millin's prostatectomy, and the smaller size prostate treated by "T.U.R.P." and in both the results was good improvement in "A.U.A" score and residual urine also greatly diminished postoperatively in both groups. While, the results was discouraging in patients with big prostate by T.U.R.P. The complications rate was high in Millin's prostatectomy in comparison with T.U.R.P. Smaller size prostate better be treated by T.U.R.P. while big size better be treated by Millin's prostatectomy, postoperative complications occur in Millin's prostatectomy with higher rate than T.U.R.P. There was very well improvement in obstructive symptoms after Millin's prostatectomy than T.U.R.P.

Introduction

Currently, open prostatectomy is still regarded as the only procedure that can completely relieve Prostatic obstruction. However it is only used rarely. Indication mainly consist of large adenoma, especially in which there is co-existent pathology that is easily managed transvesically, such as large bladder , diverticulum, or multiple bladder stones (1). The two main approaches to the prostate emerge during the early twentieth century, including the suprapubic transvesical and retropubic transcapsular routes (2, 3).

Currently, the ratio of open surgery to endoscopic resection is about "1:20" although, there are large variation among different countries (4). Despite the higher coast of open surgery, suprapubic prostatectomy had been performed in countries with less healthy care resources, and a lack of endoscopic equipment and expertise (5). During the second half of the twentieth country the obvious benefit of endoscopic surgery lead to the wide spread adoption of transurethral prostatectomy (6). However, there is little doubt that endoscopic resection cannot remove as much as tissue from a large prostate as open surgery.

Patients and Methods

From December 2001 to December 2002. Consecutive unselected patient of Benign Prostatic Hypertrophy presented to urology department in Tikrit Teaching Hospital, 30 patients of them included in this study, age of those patient was "60 – 70" years old.

Those 30 patients assessed preoperatively by using: clinical evaluation by application of "AUA" scoring which is self-administered questionnaire developed by American urological association (AUA) which is both valid and reliable in identifying the need to treat patient in monitoring their response to therapy(9) and by P./R. examination.

While, investigations include the followings:- chest X-ray , ECG, CBP& ESR, blood sugar, blood urea, serum creatinine, GUE & urine culture, Ultrasound, & I.V.U. Where post voiding residual urine assessed by (U./S.) and (I.V.U.)

Those 30 patients were divided into 2 groups, each group composed of 15 cases:

Group 1: undergo transurethral resection prostatectomy.

Group 2: undergo retropubic prostatectomy (Millin's).

The surgical procedure for transurethral resection as following: under G.A., lethiotomy position and shot of 80mg of gramysine given I.V., sterilization by iodine betadine for the penis and suprapubic area, sterile tolling used , cystoscope then introduced through the urethral meatus, the enlarged lobs of the prostate gland identified and resection done buy using resectoscope of haemostasis secured by cauterization, 3 ways folly's catheter size 20f used of collecting urine bag.

While the operative procedure for retropubic done as following : the patient in supine position , sterilization of anterior abdominal wall done by butadiene iodine , lower midline incision done and the peritoneum reflected up, identification of the bladder neck, 2 stay sutures placed across the bladder neck of incised transversally, blunt finger dissection of the Prostatic adenoma and haemostasis achieved, foley's urethral catheter introduced and suprapubic catheter used, the incision closed by chronic cut gut (1), retropubic tube drain through separated skin incision done, and the wound closed in layers.

Postoperatively the patient followed as following:

1- Fluid chart and vital signs observation.
2- Continuous bladder washout by normal saline.
3- Meticulous observation of U.O.P. in the collecting urine bag.
4- Foley's catheter removed at 5th post operative day in T.U.R.P. and 7th postoperative day in Millin's prostatectomy.
5- The resected tissues measured and send for histopathological study.

All those 30 patient, have regular clinical "A.U.A.", ultrasonography, and urine C./S. at an interval of (2, 4, 6, and 40 weeks).

Results

The big prostate glands are treated by open method while smaller size glands mostly treated by T.U.R.P. and accordingly give better results regarding A.U.A. SCORE and residual urine as shown in tables No.-1. 2 . 3 . 4. –

The rate of complications (general and specific) is higher in retropubic than Transurethral prostatectomy as shown in table No. 5.

Discussion

In comprehensive review to our results, most of the patient having prostate size > 60 gm with high "A.U.A." score and number of patients presented with urinary retention in contrary to European countries whom have lower "A.U.A." score of smaller Prostatic size at prevention (9).

This reflect the patient ignorance of his symptoms until urinary retention develop, this is probably due to primitive believe of horrible ideas about Prostatic surgery regarding erectile function adding to the economical coast.

Regarding the size of the prostate gland we can see from table no (2&3), those patient with big size prostate (>60 gm) and treated by T.U.R.P still having higher "A.U.A." score postoperatively in comparison with those patient with some Prostatic size and treated by open prostatectomy, this is in fact similar to other articles (10).

They show that the proportional reduction in Prostatic volume by T.U.R.P. is correlated with outcome in terms of A.U.A. score (11).

From table (4) we can discuss that residual urine postoperatively is less in amount in patient treated by open prostatectomy, this is perhaps due to complete removal of the adenoma of the prostate gland by open method rather than cystoscopic partial resection which result in partial relive of obstruction and this is goes with that is mentioned in other articles (11).

Table 5 showing the postoperative complications regarding the procedures, and we can see that the bleeding is more in open prostatectomy, this is attributed to extensive surgical resection of the big, vascular prostate gland, while in T.U.R.P. bleeding is better controlled by using electrocoagulation at the same time (10).

Incontinence and impotence are reported in open prostatectomy rather than cystoscopic prostatectomy, and this is can be

explained by damage of the bladder neck and external urethral sphincter in open prostatectomy, while impotence due to injury to the neurovascular bundle directly or by fibrosis later on, this mean that the cause of impotence is vascular or neurogenic or both of them, and this is agreed by others (12).

However the number of patients with impotence is smaller (only 2) from 15 treated by millin's prostatectomy which makes this procedure accepted regarding the erectile problems, while in T.U.R.P. the resection is more conservative (12).

Postoperative U.T.I. as shown is more common in transurethral resection of prostate and this may reflect the fact that complete removal of obstruction by complete removal of adenoma achieved by open prostatectomy result in decreased amount of post voiding residual urine which give better control of infections(13).

From this work no patient with transurethral resection prostatectomy syndrome is reported i.e. (water intoxication) during T.U.R.P. and this is can be explained by using the continuous irrigation system which keeps the intravascular pressure very low during the procedure, also the relative smaller size of prostate gland in patient treated by T.U.R.P. resulting in resection time and shortened period of irrigation.

Also we have no enough time to test the incidence of recurrence after each procedure.

Also I should focus on the difficulty in explanation of "A.U.A" score to the low educated or illiterate peoples.

The present study concludes from this study the following:

Smaller size prostate gland in relatively younger age group with erectile function preservation better treated with transurethral resection.

Larger size prostate gland, retropubic resection of the prostate seems to be feasible, however by using the continuous irrigation system, will enable us to resect the big prostate by transurethral method.

In general postoperative complications following transurethral resection is much less than retropubic resection, so whenever feasible transurethral resection prostatectomy to be undertaken.

Improvement in the obstructive symptoms after retropubic resection is better than after transurethral resection prostatectomy.

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Table (1) Show correlation between the Prostatic size by grams and the procedure used for prostatectomy.

Size of prostate	T.U.R.P.	Retro pubic	Total
40-60 gm	10	2	12
60-80 gm	3	3	6
80-100 gm	2	8	10
> 100 gm	0	2	2
Total	15	15	30

Table (2) This table show the relationship between the size of the prostate by grams removed by retro pubic resection with "A.U.A." evaluation pre and postoperatively.

Size of prostate	Retro pubic	Mean preoperative "A.U.A."	Mean postoperative "A.U.A."
40-60 gm	2	20	4
60-80 gm	3	25	5
80-100 gm	8	30	5
> 100 gm	2	35	10

Table (3) This table show the relationship between the size of prostate by grams removed by transurethral resection with "A.U.A."

Size of prostate	T.U.R.P.	Mean preoperative "A.U.A."	Mean postoperative "A.U.A."
40-60 gm	10	15	7
60-80 gm	3	20	10
80-100 gm	2	30	18
> 100 gm	0	0	0
Total number	15	65	35

Table (4) Show the residual urine in the bladder by milliliter postoperatively in both retro pubic and transurethral prostatectomy.

Residual urine	T.U.R.P.	R.P.P.
0 – 10 cc	2	10
11 – 20 cc	8	3
21 – 40 cc	3	2
> 40 cc	2	0
Total number	15	15

Table (5) Show the postoperative complications of both procedures.

Complications	T.U.R.P	R.P.P.
Sever operative bleeding	1	2
U.T.I.	5	2
Wound infection	0	3
Postoperative bleeding	0	2
Epididymitis	0	0
Stress incontinence	0	4
Urethral stricture	1	0
Postoperative mortality	1	1
Impotence	0	2
"TUR" syndrome	0	0