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Clinical Appraisal of TURP in Gezira Hospital for Renal Diseases and Surgery

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Methodology : This study was a prospective, hospital based, small scale study conducted in the period between January 2012 to June 2013 in Gezira Hospital for Renal Diseases and Surgery. Ninety four patients underwent TURP for (benign prostatic hyperplasia) BPH were included in this study. The management was done according to the European association of urological surgeons (EAU) guideline for the indication of surgery, procedure and postoperative treatment.The data was collected in a form of data sheet (patient's records, direct interviews and a pre-designed questionnaire). Data coded and fed in computer to handle statistical and mathematical procedure, using SPSS 17(statistical package for social sciences).

Keywords : *turp, ghrds, bph.*

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Clinical Appraisal of TURP in Gezira Hospital for Renal Diseases and Surgery

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Result : One hundred and thirty two patients were enrolled, twenty one patients were excluded due tunneling TURP for Ca prostate and 17 had incomplete follow up or record. Mean age of (69.02) years, mean hospital stay (1.5) days, mean follow-up of (7.19) month and mean operation time was (39.9) minute. Fortunately no mortality stated with significant improvement in international prostate symptoms score (IPSS) on the long term (87.2%) and minimal complication like perforation occur in 2 patients (2.1%), while 1 patient (1.1%) develop bleeding.

Conclusion : The outcome of TURP in GHRDS is good with minimum intraoperative and postoperative complications.

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I. Introduction

BPH is the most common benign tumor in men and its incidence is age related. The prevalence of histologic BPH in autopsy studies rises from approximately 20% in men aged 41 – 50 year to 50% in men aged 51 – 60 and to more than 90% in men older than 80 year. (1) TURP to treat BPH has been the gold standard for decades. It is still considered the standard as the "benchmark for surgical therapies" by the American Urological Association (2-3). Moreover, the European Urological Association considers TURP "the treatment of choice for prostates sized 30 to 80mL (4)

The most frequent indication (50–60%) for surgery is LUTS refractory to medical therapy. The following BPE/BPO complications are considered strong indications for surgery: (1) recurrent urinary retention (2) BPH- or BPE-related macro-hematuria refractory to medical therapy with 5a-reductase inhibitors (5-ARI) (3) renal insufficiency or upper urinary tract dilatation, (4) bladder stones and (5) recurrent urinary tract infection (UTI). About 20% of patients with mild or severe symptoms are treated using several types of surgical procedures. Among these, transurethral resection of the prostate (TURP) is considered to be the gold standard Conventional TURP uses monopolar technology (M-TURP) and is associated with several adverse effects, including morbidity related to blood loss and disturbances of serum fluid and mineral balance. In seeking to improve these negative aspects, TURP using bipolar technology (B-TURP) has been developed. The only contraindications for TURP are untreated UTI and bleeding disorders. (5)

II. Patients and Methods

This study was a prospective, hospital based, small scale study conducted in the period between January 2012 to June 2013 in Gezira Hospital for Renal Diseases and Surgery. Ninety four patients underwent TURP for (benign prostatic hyperplasia) BPH were included in this study. GHRS is a tertiary hospital; all male patients with lower urinary tract symptoms with or without acute urinary retention (AUR) suggestive of BPH were evaluated according to the European guidelines. Patients were subjected to full history taking, physical examination, digital rectal examination (DRE), IPSS, prostate-specific antigen (PSA) measurement, routine lab tests, renal function test and trans-rectal ultrasonography biopsy (TRUS) for the patients whose PSA values was 4 and above or who had any other risk factor (nodule on the DRE or hypo echoic lesion on ultrasounds) Patients who have pus cells in their urine analysis covered by antibiotic for 5 days. Urine for culture and sensitivity with antibiotic accordingly (uncountable pus cells or pus cells persist). Small dose of Alfa blocker and or finaesteride were initiated and the

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(uncountable pus cells or pus cells persist). Small dose of Alfa blocker and or finaesteride were initiated and the patient assessed 1 week later by IPSS. For those who were candidate for surgery TURP was advised according to the size of the prostate with a volume below 60 gram, volume above than 65gms were for open prostatectomy. All patients were operated under spinal or general anesthesia as well as 1 g of ceftriaxone administered intravenously. The procedure was performed by a senior urologist with fair experience in TURP procedures or general surgeon trainees under supervision of the urologist. All patients were treated similarly, apart from the intervention. Conventional M-TURP was performed with a 24F resectoscope (Olympus, Hamburg, Germany) and a loop electrode for TURP (5 mm diameter, Olympus), using an UES-30 generator (Olympus) set at 110 W (cutting mode) and 70 W (coagulation mode). Tap water used as irrigation fluid 60 cm height. Unipolar resection was performed with a 24F Resectoscope set at 160 W (cutting mode) and 80 W (coagulation mode). All the prostatic chips were removed from the bladder at the end of the procedure by Ellik. Subsequently, a 22-24F three-way Foley catheter was inserted into the bladder and initiated irrigate the bladder with normal saline solution in the operating room. The patient will continue on injectable antibiotics and catheter removed in 3rd day postoperative .all patients were subjected to a schedule of follow up during which IPSS was assessed and other symptoms were evaluated and dealt with.

III. Result

One hundred and thirty two patients were enrolled, twenty one patients were excluded due tunneling TURP for Ca prostate and 17 had incomplete follow up or record.

The mean age of (69.0±8).Most of the patients came from Gezira state (84%) but there were significant number from nearby States (Table 1)

Table 1 : Age and residence of patients underwent TURP in GHRDS January 2012- June 2013

		NO	%
Age	50 - 59	13	13.9
	60 - 69	30	31.9
	70-79	35	37.2
	80 – 89		
	90 -99	14	14.8
		02	2.2

Residency	Gezira state	79	84
	Gadarif state	6	6.4
	Sinar state	4	4.3
	Kassala state	3	3.2
	North Kurdfan state	2	2.1

The mean prostate volume was (46.64 ±11.58) grams
The mean PSA level was (6.64±6.54) ng\dl
The mean operative time (39.94± 7.87) minutes
The mean hospital stay was (1.53±1.07) days.

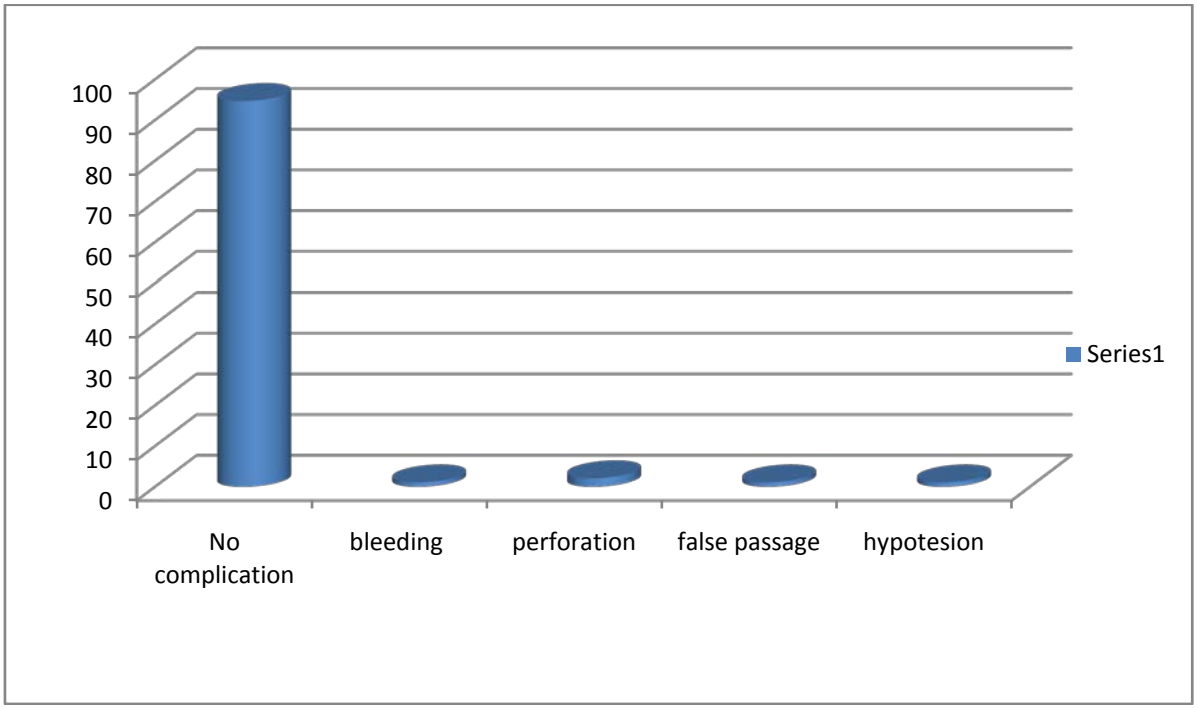
Concerning the indications for surgery,45 patients (47.9%)was due to refractory LUTS, while 18 patients(19.1%) was due to recurrent urine retention.11 patients (11.7%) had vesical stones. 8 patients (8.5%) had inguinal hernias .6 patients (6.4%) had recurrent UTI and similar number had obstructive uropathy. (table 2).

Table 2 : Indications for TURP in GHRDS January 2012-June 2013)

Indication	%
LUTs Refractory to medical therapy	47.9 %
Recurrent UTI	6.4 %
Obstructive uropathy	6.4 %
Recurrent AUR	19.1 %
Stones	11.7%
Hernia	8.5 %

Fortunately 89 patients (94.7%) had no intraoperative complications. Perforation occurred in 2 patients (2.1%), while 1 patient (1.1%) developed bleeding, another one developed hypotension and last one developed false passage. figure (1)

Figure 1 : Intraoperative complications for TURP in GHRDS January 2012-June 2013



Most of the postoperative complications that occurred was UTI in 16 patients (17%). 4 patients (4.3%) developed retrograde ejaculation, 3 patients (3.2%) developed urethral stricture, 2 patients (2.1%) developed incontinence and only one patients (1.1%) had urine retention. table (3).

Table 3 : show postoperative complications

Postoperative complication	Frequency	%
NO	68	72.3
UTI	16	17.0
Stricture	3	3.2
urine retention	1	1.1
Incontinenance	2	2.1
retrograde ejaculation	4	4.3
impotence	0	0
Total	94	100.0

IV. Discussion

A systematic review of the literature was undertaken two major databases (PubMed, MEDLINE) were searched, this is the first study addressed the complications and outcome of TURP in Sudan. One hundred and thirty two patients were operated upon, out of which 21 were excluded due tunneling TURP for Ca prostate, 17 had incomplete follow up or record.

Data were obtained from 94 patients who underwent TURP studied in GHRDS in the period from January 2012 to June 2013 with mean age of (69.02) years (range, 50 to 93 years), mean hospital stay (1.5) days (range 1 to 7 days) and mean follow-up of (7.19) month.

Fortunately no mortality was encountered. The study showed that most of the patients who underwent TURP age group were between 60 & 70 years and BPH was rare or even absent below the age of 50 years in Sudanese (1).The incidence of co-morbidity, DM, HTN or both increase with age inspite of that in the study, co-morbidity only (13.8%) no significant intraoperative or postoperative complication or age related complications, which goes with Wilson JR opinion and his group in study done in 2004, the population at present is older but this does not carry additional co-morbidity. (6)

The majority of the patients had severe preoperative IPSS 67 patients (71.3%), while 27 patients (28.3%) have moderate IPSS. In our follow-up we found that the IPSS was markedly improved on the long term, 82 patients (87.2%) had IPSS less than 7 points which comparable with the literature, in reviewing the literature, various clinical studies, they noted that the chance of improvement of patients' symptoms after a TURP was 70% to 96% confidence interval. The magnitude of reduction in symptom score was 85% (7). The postoperative IPSS was significantly lower than the preoperative and immediately postoperative values.

Concerning prostate volume the upper limit for the TURP is 60 gram in GHRD which is adopted according to their local facilities and experience, although the study showed that there were 3 patients with prostate volume more than 60 gram (70-75grams) and no intraoperative complication was recorded

specifically in those patients, however, in most of the international guideline American urology Association & European Urological Association consider prostates sized 30 to 80mL is optimum for TURP (4). Agarwal M, in study state that, the complication rate increased if the resected prostatic weight was 100 g or more (8). Strange enough Muzzonigro G and his group found that large prostate gland is a safe procedure without showing a different complication rate compared with TURP for recommended volumes (9). Panel's opinion who has assumed that upper limit of the prostate size depends on the surgeon's experience, resection speed, and resectoscope sizes (10). Increase the upper limit of the volume of the prostate from 60grm to 80gram may be justified by the above data concerning time of the operation and significant number of the successful operation in the study to increase the number of patients who benefit from TURP as gold standard and safe non-invasive procedure and there was enough data in the literature to support the decision of performing TURP for a large prostate in terms of safety and efficacy (8) (9).

45 patients (47.9%) the indication for surgery was LUTS refractory to medical therapy, which approximately goes with international figure 50 – 60% (5), while 18 patients (19.1%) was due to recurrent urine retention. Vesical stones 11 patients (11.7%). Hernia 8 patients (8.5%). Recurrent UTI and obstructive uropathy 6 patients for each (6.4%).

All the patients except one patient subjected to spinal anesthesia which is important for early record of TURP syndrome, fortunately enough no single case of TURP syndrome stated in the study.

Most of the patients 44 (46.8%) the operation had taken between 35 to 45 minute. Mean operation time was (39.9) minute, extremely lower than maximum time internationally which was less than 1 hour (11) up to 90 minutes in some centre(7). Agarwal M, directly correlate the complications if the time exceeded 75 minutes (8). Finding explains the absence of TURP syndrome in this study compared to 0% to 1.1% in one study (12). or (0.8% to 1.4%) in another one(13)(14). Hahn RG, stated that for TUR syndrome to develop, prolonged operation time, large prostates, and past or present nicotine abuse (15)

Recently, Tascı Ali Ihsan had collected data from the 3589 patients in Turkey highlighted that Intraoperative perforation of prostatic capsule or bladder neck was observed in 27 (0.75%) patients. Clot retention with secondary bleeding was observed in 81 patients (2.3%)(16). Perforation occur in 2 patients (2.1%), which goes with international figure ranging between 0.75% to 2% in two study respectively (16)(12). Bleeding developed in only one patient (1.1%), compared with literature bleeding which requires transfusions ranging between (2.0% to 2.9%)(13)(14) and 2.0% to 4.8% (12) in two study, it was far low, justified by the preoperative use of finaesteride which reduce intraoperative bleeding significantly (17)(18) or The advantages of using a larger, continuous flow, resection sheath were improved irrigation and vision with lower irrigation pressures. This contributes to better homeostasis hence the absence of blood transfusion and the absence of TUR syndrome observed in this study. One patient (1.1%) develop hypotension in the absence of bleeding or vomiting which could be considered as a complication of spinal anesthesia, and last one had false passage(1.1%).

Most of the postoperative complications were UTI in 16 patients (17%) which was higher in comparison to the literature (3.6% to 4.2%) (13) (14) the majority responded to the treatment with oral antibiotics. A great effort should be done in this aspect of the study to clarify the cause of the UTI, appropriate preoperative antibiotics regimes and drug resistance and the timing of catheter removal. 4 patients (4.3%) develop retrograde ejaculation, in the literature retrograde ejaculation is due to injury of preprostatic (internal) sphincter system. (1)The re-intervention rate for urethral strictures identified in this study were 3 patients (3.2%) Compared to the incidence of strictures quoted in the literature (2.2–9.8%) (19) (20) (21) was acceptable or even lower compared to F. Kallenberg and his group for long term follow urethral stricture was 14%(22) 2 patients (2.1%) develop incontinence and only one patients (1.1%) develop urine retention he was for re-doing of TURP for incomplete surgery due to intraoperative perforation (stop procedure).

Most of the postoperative complications occurred in 26 patient (73.1%) who underwent TURP due to LUTS refractory to medical therapy followed by those who had AUR (15.4%). In fact Chen JS and his colleague in Taiwan found that those with AUR who were treated by TURP were associated with a higher risk of complications (23). No case of impotence recorded.

Most of the patients 64 (68.1) stay for 1 day post-operatively with mean of (1.53) days and 1.07 standard deviations, which indicate that TURP is safe procedure did not need long hospital admission , and those who need longer hospital admission who develop complications or their bladder wash take more than 0ne day to clear. Mean follow up was (71.9) month, minimum 2 moth for those who were operated at the end of the study, maximum 14 month and (4.01) standard deviation.

V. Conclusion

The outcome of TURP in GHRDS is good with minimum intraoperative and postoperative complications comparable with which has been encountered in the literature with little increase postoperative UTI which needs evaluation by further study.

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