

1 Clinical Appraisal of TURP in Gezira Hospital for Renal 2 Diseases and Surgery

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6

7 **Abstract**

8 Transurethral resection of the prostate(TURP) is the gold standard for the surgical treatment
9 of benign prostatic hyperplasia(BPH)-related lower urinary tract symptoms (LUTS).

10 Objective : The main goal is to evaluate patients selection the complications and the outcome
11 following TURP in (Gezira hospital for renal diseases and surgery) GHRDS.Methodology :

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

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21 **Index terms**— turp, ghrds, bph.

22 **1 Introduction**

23 PH is the most common benign tumor in men and its incidence is age related. The prevalence of histologic BPH
24 in autopsy studies rises from approximately 20% in men aged 41 -50 year to 50% in men aged 51 -60 and to more
25 than 90% in men older than 80 year. (1) TURP to treat BPH has been the gold standard for decades. It is still
26 considered the standard as the "benchmark for surgical therapies" by the American Urological Association (2)(3).
27 Moreover, the European Urological Association considers TURP "the treatment of choice for prostates sized 30
28 to 80mL (4) The most frequent indication (50-60%) for surgery is LUTS refractory to medical therapy. The
29 following BPE/BPO complications are considered strong indications for surgery: (1) recurrent urinary retention
30 (2) BPH-or BPE-related macro-hematuria refractory to medical therapy with 5a-reductase inhibitors (5-ARI) (3)
31 renal insufficiency or upper urinary tract dilatation, (4) bladder stones and (5) recurrent urinary tract infection
32 (UTI). About 20% of patients with mild or severe symptoms are treated using several types of surgical procedures.
33 Among these, transurethral resection of the prostate (TURP) is considered to be the gold standard Conventional
34 TURP uses monopolar technology (M-TURP) and is associated with several adverse effects, including morbidity
35 related to blood loss and disturbances of serum fluid and mineral balance. In seeking to improve these negative
36 aspects, TURP using bipolar technology (B-TURP) has been developed. The only contraindications for TURP
37 are untreated UTI and bleeding disorders. (5) II.

38 **2 Patients and Methods**

39 This study was a prospective, hospital based, small scale study conducted in the period between January 2012 to
40 June 2013 in Gezira Hospital for Renal Diseases and Surgery. Ninety four patients underwent TURP for (benign
41 prostatic hyperplasia) BPH were included in this study. GHRDS is a tertiary hospital; all male patients with

4 DISCUSSION

42 lower urinary tract symptoms with or without acute urinary retention (AUR) suggestive of BPH were evaluated
43 according to the European guidelines. Patients were subjected to full history taking, physical examination, digital
44 rectal examination (DRE), IPSS, prostate-specific antigen (PSA) measurement, routine lab tests, renal function
45 test and trans-rectal ultrasonography biopsy (TRUS) for the patients whose PSA values was 4 and above or
46 who had any other risk factor (nodule on the DRE or hypo echoic lesion on ultrasounds) Patients who have pus
47 cells in their urine analysis covered by antibiotic for 5 days. Urine for culture and sensitivity with antibiotic
48 accordingly (uncountable pus cells or pus cells persist). Small dose of Alfa blocker and or finaesteride were
49 initiated and the (uncountable pus cells or pus cells persist). Small dose of Alfa blocker and or finaesteride were
50 initiated and the patient assessed 1 week later by IPSS. For those who were candidate for surgery TURP was
51 advised according to the size of the prostate with a volume below 60 gram, volume above than 65gms were for
52 open prostatectomy. All patients were operated under spinal or general anesthesia as well as 1 g of ceftriaxone
53 administered intravenously. The procedure was performed by a senior urologist with fair experience in TURP
54 procedures or general surgeon trainees under supervision of the urologist. All patients were treated similarly,
55 apart from the intervention. Conventional M-TURP was performed with a 24F resectoscope (Olympus, Hamburg,
56 Germany) and a loop electrode for TURP (5 mm diameter, Olympus), using an UES-30 generator (Olympus)
57 set at 110 W (cutting mode) and 70 W (coagulation mode). Tap water used as irrigation fluid 60 cm height.
58 Unipolar resection was performed with a 24F Resectoscope set at 160 W (cutting mode) and 80 W (coagulation
59 mode). All the prostatic chips were removed from the bladder at the end of the procedure by Ellik. Subsequently,
60 a 22-24F three-way Foley catheter was inserted into the bladder and initiated irrigate the bladder with normal
61 saline solution in the operating room. The patient will continue on injectable antibiotics and catheter removed
62 in 3 rd

63 3 III.

64 Result day postoperative .all patients were subjected to a schedule of follow up during which IPSS was assessed
65 and other symptoms were evaluated and dealt with.

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

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

70 4 Discussion

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

75 Data were obtained from 94 patients who underwent TURP studied in GHRDS in the period from January
76 2012 to June 2013 with mean age of (69.02) years (range, 50 to 93 years), mean hospital stay (1.5) days (range
77 1 to 7 days) and mean follow-up of (7.19) month.

78 Fortunately no mortality was encountered. The study showed that most of the patients who underwent TURP
79 age group were between 60 & 70 years and BPH was rare or even absent below the age of 50 years in Sudanese
80 (1).The incidence of co-morbidity, DM, HTN or both increase with age inspite of that in the study, comorbidity
81 only (13.8%) no significant intraoperative or postoperative complication or age related complications, which goes
82 with Wilson JR opinion and his group in study done in 2004, the population at present is older but this does not
83 carry additional comorbidity. (6) The majority of the patients had severe preoperative IPSS 67 patients (71.3%),
84 while 27 patients (28.3%) have moderate IPSS. In our follow-up we found that the IPSS was markedly improved on
85 the long term, 82 patients (87.2%) had IPSS less than 7 points which comparable with the literature, in reviewing
86 the literature, various clinical studies, they noted that the chance of improvement of patients' symptoms after a
87 TURP was 70% to 96% confidence interval. The magnitude of reduction in symptom score was 85% (7). The
88 postoperative IPSS was significantly lower than the preoperative and immediately postoperative values.

89 Concerning prostate volume the upper limit for the TURP is 60 gram in GHRD which is adopted according to
90 their local facilities and experience, although the study showed that there were 3 patients with prostate volume
91 more than 60 gram (70-75grams) and no intraoperative complication was recorded specifically in those patients,
92 however, in most of the international guideline American urology Association & European Urological Association
93 consider prostates sized 30 to 80mL is optimum for TURP (4). Agarwal M, in study state that, the complication
94 rate increased if the resected prostatic weight was 100 g or more (8). Strange enough Muzzonigro G and his
95 group found that large prostate gland is a safe procedure without showing a different complication rate compared
96 with TURP for recommended volumes (9). Panel's opinion who has assumed that upper limit of the prostate
97 size depends the surgeon's experience, resection speed, and resectoscope sizes (10). Increase the upper limit of
98 the volume of the prostate from 60grm to 80gram may be justified by the above data concerning time of the
99 operation and significant number of the successful operation in the study to increase the number of patients who
100 benefit from TURP as gold standard and safe noninvasive procedure and there was enough data in the literature
101 to support the decision of performing TURP for a large prostate in terms of safety and efficacy (8) (9). 45

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

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

108 Most of the patients 44 (46.8%) the operation had taken between 35 to 45 minute. Mean operation time was
109 (39.9) minute, extremely lower than maximum time internationally which was less than 1 hour (11) up to 90
110 minutes in some centre (7). Agarwal M, directly correlate the complications if the time exceeded 75 minutes (8).
111 Finding explains the absence of TURP syndrome in this study compared to 0% to 1.1% in one study (12). or
112 (0.8% to 1.4%) in another one (13) (14). Hahn RG, stated that for TUR syndrome to develop, prolonged operation
113 time, large prostates, and past or present nicotine abuse (15) Recently, Tasc? Ali Ihsan had collected data from
114 the 3589 patients in Turkey highlighted that Intraoperative perforation of prostatic capsule or bladder neck was
115 observed in 27 (0.75%) patients. Clot retention with secondary bleeding was observed in 81 patients (2.3%) (16).
116 Perforation occur in 2 patients (2.1%), which goes with international figure ranging between 0.75% to 2% in two
117 study respectively (16) (12). Bleeding developed in only one patient (1.1%), compared with literature bleeding
118 which requires transfusions ranging between (2.0% to 2.9%)(13)(??4) and 2.0% to 4.8% (12) in two study, it was
119 far low, justified by the preoperative use of finaesteride which reduce intraoperative bleeding significantly (17)
120 (18) or The advantages of using a larger, continuous flow, resection sheath were improved irrigation and vision
121 with lower irrigation pressures. This contributes to better homeostasis hence the absence of blood transfusion
122 and the absence of TUR syndrome observed in this study. One patient (1.1%) develop hypotension in the absence
123 of bleeding or vomiting which could be considered as a complication of spinal anesthesia, and last one had false
124 passage(1.1%).

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

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

139 Most of the patients 64 (68.1) stay for 1 day postoperatively with mean of (1.53) days and 1.07 standard
140 deviations, which indicate that TURP is safe procedure did not need long hospital admission , and those who
141 need longer hospital admission who develop complications or their bladder wash take more than 0ne day to clear.

142 Mean follow up was (71.9) month, minimum 2 moth for those who were operated at the end of the study,
143 maximum 14 month and (4.01) standard deviation.

144 V.

145 5 Conclusion

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

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Figure 1: B

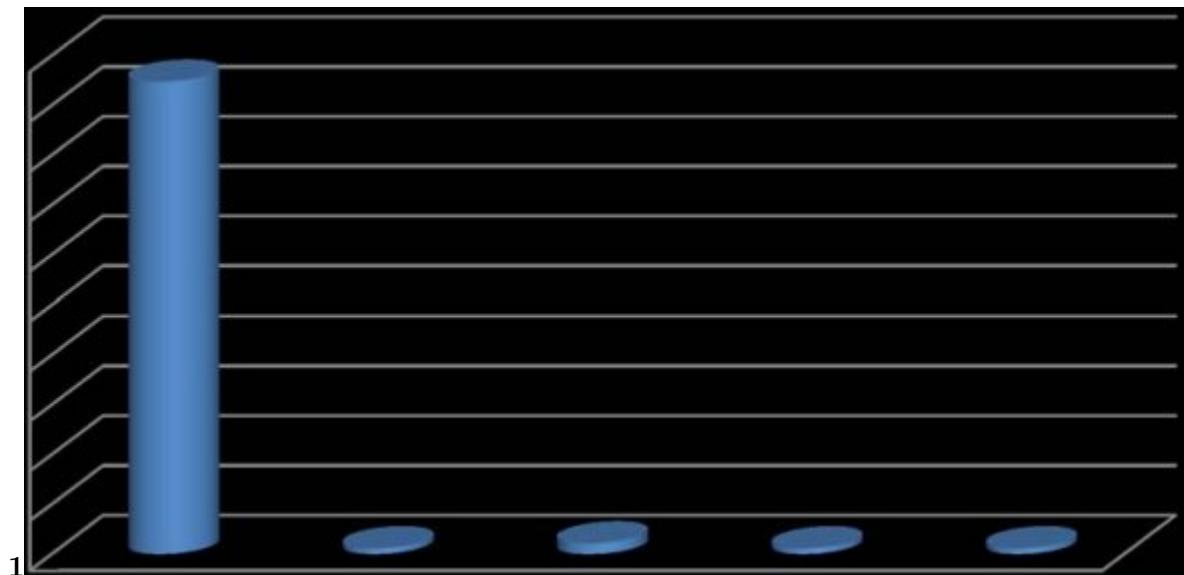


Figure 2: Figure 1 :

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in GHRDS January 2012-June 2013

Age	NO	%
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

Figure 3: Table 1 :

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Figure 4: Table 3 :

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