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Results of transurethral incision (TUIP) application to the benign prostatic hyperplasia

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ÖZET

Benign prostat hipertrofisinde (BPH) herkesin isteği daha az invaziv bir cerrahi yöntemle tedavi olmaktır. Biz çalışmamızda kliniğimizde BPH tanısı konan ve TUIP uygulanan 14 hastayı objektif (Uroflowmetri) , subjektif (Semptom skoru) ve seksüel fonksiyon açısından değerlendirdik. TUIP uygulanan 14 hastanın ortalama yaşı 54.8 ve ortalama izlem süremiz 35.5 ay idi. Semptom skoru (IPSS) ve uroflowmetri preoperatif ve postoperatif tüm hastalarda değerlendirilerek karşılaştırıldı. TUIP' ten sonra semptom skorunda azalma izlendi. Maksimum idrar akış hızı ortalama 9.8 ml/sn den postoperatif altıncı ayda 14.3 ml/sn'ye çıktı. 1 hastada operasyon sonrası retrograd ejekulasyon gözlendi. TUIP ten sonraki iyileşme oranları TURP ile kıyaslandığında daha düşük olmakla birlikte iyi seçilmiş hastalarda obstruksiyondan kurtarmada etkili bir yöntem olduğu kanaatine varıldı.

Anahtar Kelimeler: *BPH, tedavi, transüretral insizyon.*

SUMMARY

Everybody wish a less invasive surgical procedure applied at Benign Prostatic Hyperplasia (BPH). We evaluated the results of TUIP application at our clinic to 14 cases with BPH identification in point of objective measures (Uroflowmetry), subjective measures (Symptom score) and sexual function. Average age of 14 cases subjected to TUIP was 54.8 and average observation period was 35.5 months. In all cases pre and postoperative symptom score (IPSS) and uroflowmetry data have been evaluated and compared. A reduction in the symptom score has been observed after the TUIP. Maximum urine flow rate increased from 9.8 ml/sec to 14.3 ml/sec at sixth month. Post-operative retrograde ejaculation has been observed in only one patient. Although recovery rates were low as compared to TURP, TUIP was evaluated to be an effective method in obstruction therapy at carefully selected patients.

Key Words: *BPH, therapy, TUIP.*

25 % of the men over age of 50 will need to face with BPH treatment in the rest of their life. This truth challenges the medical world to search for the ideal therapy method. Leaving researches for medical treatment methods against the surgical approaches on one side, even there is no ideal surgical method for the therapy . (1). TURP is the all fingers go approach for today. Along with this, efforts for the research of a better approach continues because of the 15% morbidity and 0.2 % mortality observed after the TURP (2).

Everybody wishes a less invasive surgical procedure in BPH treatment. Request for treating with least possible trauma, economical reasons, desire for a shorter interrupt in patients life and manpower saving are among the most important motivation for this wish. TURP, forming nearly half of the surgery, can not fulfil these requirements.

Transurethral incision of prostate (TUIP) is among the most widely applied methods in this respect. This method , defined by Keitzer (3) in 1963 and widely applied by Orandi (4) in 1973 took its

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place in the preferred list of methods for the treatment of small and obstructive prostates.

TURP and TUIP have been compared in a lot of studies in the literature and TUIP has been more advantageous with regards to operation duration, amount of bleeding, hospital stay and incidance of bladder neck contracture. We evaluated TUIP applied 14 cases in our study.

MATERIALS AND METHODS

We evaluated pre and postoperative data from 14 cases with BPH diagnosis and TUIP treatment in our clinic between October 1994 and July 1999. Detailed history have been taken from all of the 14 patients. Physical and digital rectal examination has been made to all patients. Blood samples have been taken from all patients for PSA measurement before the digital rectal examination and full blood, urine analysis have been performed along with the urine culture and biochemical analysis needed for necessary cases. Again at all 14 cases, intravenous pyelography (IVP), postvoiding cystogram (PVC), transrectal ultrasonography (TRUS), uroflowmetry and residual urine measurement have been made. In the patients with high PSA findings, biopsy along with TRUS has been done.

Pre and post-operative IPSS, uroflowmetry and residual urine measurements have been taken from all patients in first and sixth months. IPSS consists of seven questions evaluating irritative and obstructive prostatism complaints and a question determining life standard. There were six choices for every question evaluating prostatism symptoms with marking from 0 to 5. Result is a symptom score between 0 and 35. Life standard determining question had seven choices and a life standard figure ranging from 0 to 6 arisen after the test. As the score after the test rises, symptoms get deeper and life standard falls down. Pre and postoperative erection functions, having orgasm during the sex, and existence of retrograde ejaculation have been evaluated by asking each patient individually.

Urethra, prostate, bladder neck and bladder have been examined by inserting uretral cystoscope at lithotomy position under local or general anesthesia. After this, classical TUR loop has been used and 24F resectoscope inserted. The incision is performed at the 5-o'clock and 7-o' clock position, starting at near the ureteral orifices and carriying it to the verumontonum. Postoperative urethral catheter has been installed to all patients and removed after 24 hours. Intravenous antibiotic treatment at the first day and oral antibiotic treatment for the next week has been started at all patients after the operation.

RESULTS

Average age of the patients was 54.8 (between 38 and 78) and average observation period was 35.5 months (from 6 to 54 months). Preoperative prostate volume measured with TRUS was 34.7 cc (between 24.6 and 64.8 gr). Preoperative symptom score according to IPSS was 21.8 (between 18 and 28). There was no proportional relation between the prostate weight and symptom score when prostate patients are divided into three groups according to prostate weight, namely 30 cc, 31-60 cc and above 61 cc (Table 1). Average symptom score was 16.4 (from 12 to 18) at the postoperative first month while it was 15.8 at the sixth month after the operation. Pre and postoperative symptom scores at first and sixth months are summarised in Table 2.

Maximum urine flow rate has been found to be 9.8 ml/sec before the operation and 13.9 ml/sec at the first month and 14.3 ml/sec at the sixth month after the operation (Table 3). In two of patients 50 and 70 cc residual urine found before the operation. Ultrasonographic evaluation showed that postoperative residual urine level has fallen to normal levels in both cases. As a result of uroflowmetric and ultrasonographic evaluation, meaningful recoveries have been observed at the first and sixth months after the operation.

Table 1. *The replication between Prostate volume to symptom scores.*

Prostate volume (cc)	n	Avarage symptom score
< 30	3	24
31-60	9	21.5
> 60	2	25

Table 2. Pre and postoperative IPPS.

Patients (n)	IPSS		
	Preoperative (avarage)	Postoperative 1. month (avarage)	Postoperative 6. month (avarage)
14	21.8	16.4	15.8

With respect to individual declarations of our patients, no sexual feeling sensitivity loss or erection difficulties have been recorded after TUIP. Only shortcoming was the retrograde ejaculation observed in one (7.14%) patient. Bleeding has not reached to a level where transfusion is necessary both during the operations and after the operations. Average hospital stay was 1.8 day. One patient with pissing difficulty complaints applied to our clinic 16 months after the operation and TURP has been done as a second treatment.

CONCLUSIONS

All researches are directed to finding a less invasive method in prostate surgery. We evaluated the less invasive and easy to apply TUIP and its results as compared to TURP which is accepted to be the golden standard in surgical treatment of BPH. Among the most important advantages of TUIP as compared to transurethral resection are shorter operation time, lower surgical morbidity, minimum blood loss, lesser side effects, use of local anaesthesia and shorter hospital stay can be ranked.(1,4-6). Average hospital stay was 1.8 days and no patients needed blood transfusion during the operation in our study, too.

General idea in the publications is that TUIP is the surgical operation choice at the prostates under 30 cc. (7-11). Average prostate weight was 34.7 cc in our study. In the literature, retrograde ejaculation is said to occur between 50% and 90% after the TURP while these figures are 0% to 45% after the TUIP (11-14). Retrograde ejaculation has been observed only in a patient in our study forming a percentage of 7.14% . Erection difficulties or a reduction in the sexual activities are really rare after the TUIP (8). Orandi points out that deep prostatic incisions may cause sexual complications (11). No change in potency and erection capabilities is recorded in our study according to individual reports of our patients .

Among the uncontrolled studies, Orandi has the study with the biggest number of patients. 84 % increase in ürine flow rate and 79% symptomathic recovery is declared in this study where 646 patients are observed for 15 years(11). Drago (7), says that the 87% recovery in the first year does not fade out, while Hugosson and his friends (16) claims that in 80% of the cases, flow rate increased 11ml/sec in the end of the first year and this rate does not change in the second year. Variety of incision methods and used equipment does not affect these results. In

Table 3. Pre and postoperative uroflowmetric values.

	Preoperative (avarage ml/sn)	Postoperative 1. month (avarage ml/sn)	Postoperative 6. month (avarage ml/sn)
Max urine flow rate	9.8	13.9	14.3
Avarage urine flow rate	4.9	6.0	5.8

most of the cases where TUIP fails, it is reported that incision was not enough therefore bladder neck shrunked and lobes sticked (1,11).

Another important advantage of the TUIP is that it can be applied under local anaesthesia to the patients with highly risky and small prostates. (16,17).

There are a lot of tools and methods offered for TUIP but none of them shows superior characteristics as compared to the others (1). Only distinction arises from the use of the laser where minimum blood loss is reached and catheterization is not needed. (18).

TUIP has disadvantages if there is median lobe, prostate is too big and it is not possible to take samples for pathological diagnosis. (19).

In small adenoms, in blows without median lobe hyperplasia, at young patients where protection of sexual abilities is a great concern and at patients where general anesthesia forms a risk, TUIP is an applicable method.

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