
THERMO THERAPY FOR RETENTION IN BPH : FIRST YEAR RESULT

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Abstract

Our objectives were to study and to evaluate thermotherapy for patients with retention of urine. The ability of the patient to pass urine without significant post voiding residue was also studied. Eighty six patients presented with urinary retention were treated by transurethral thermo therapy of the prostate, two weeks following thermo therapy 55 patients (63.9%) were catheter free and by the third week only 9 patients (10.4%) were still with catheter. It can be concluded that thermo therapy can be an option in the treatment of urinary retention and keeping the catheter for one more week can raise its effectiveness.

Introduction

Benign prostatic hypertrophy (BPH) usually occurs in men over 50 years of age, most often between 60-70¹, at autopsy 75% of patients over the age of 80 have evidence of BPH, however only 5% of men older than 80 years need prostatectomy. Although most men with BPH present with symptoms of prostatism, 10-15% present with acute retention and similar percentage with chronic retention, and there is 7% of those with prostatism might go into retention in five years of presentation².

The population of the world continues to

age with an increasing life expectancy and by this increase the problem seems to be a major one putting in mind that this is a risky group for surgery³. In spite of the new advances in the treatment of BPH still TURP represents the golden therapy⁴. Being a risky group for anaesthesia, a non-anaesthetic solution seems a charming solution. From this, thermo therapy as an option for the treatment of BPH had emerged. Temperature elevation in the prostate was produced by the delivery of microwaves. Microwave radiation is electromagnetic fields in the frequency range of 300-3000 MHz. Microwaves are also used for communications and therefore the frequencies available for microwave heating are limited³. It has been well documented that heat affect cellular metabolism (Giovannella et al 1976). The first rectal application for the

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treatment of BPH was in 1985. This was further developed to a transurethral method with a circulating water system in the catheter. The purpose was to destroy tissue deep within the prostate while preserving the urethral mucosa. Histological studies after thermo therapy demonstrated hemorrhagic and coagulation necrosis, intravascular thrombosis and degeneration of smooth muscle fibers and epithelium cells.

Patients & Methods

This is a prospective study of 86 men presented with retention of urine due to BPH, from November 2001 till November 2002. Age ranged between 43 and 96 years with a mean of 71. All patients were thoroughly worked up by proper history taking, clinical examination including digital rectal exam, and investigations including blood and imaging studies to properly select patients to be submitted to the study excluding those patients with known contraindications for thermo therapy such as having an enlarged median lobe, bladder stones, rectal pathology or surgery, urethral pathology and patients having metallic prostheses. All patients were treated using the ProstateCare device which is manufactured by Bruker Medical France. The device is designed for outpatient single transurethral session treatment of BPH, the device operates at a frequency of 915 MHz with a maximum of 100 W. The microwaves are delivered to the prostate via a special catheter through an antenna passing within. Following the session all patients were catheterized with a Foley's catheter which was removed after two weeks. Patient was assessed afterward and the catheter was reinserted for those with retention or high residual urine for another week.

Results

The study included eighty six patients out of them fifty five patients were catheter free after two weeks of the session (63.9%) with no significant residual urine, with keeping the catheter for three weeks (89.5%) were catheter free $P < 0.0001$ which is of statistical significance. eighty two patients (95.3%) had pain, 76 (88.3%) patients had immediate bleeding per urethra at time of session, only 7 (8.1%) patients had bleeding two weeks. Later, one patient presented two months post therapy with urethral stricture, another patient presented with gangrenous penis one month post therapy (fig.1).

Discussion

This study was conducted to evaluate the results of our work after one year from the start of using the ProstateCare microwave thermo therapy which was introduced to the department of urology, Basrah general hospital in November 2002. We compared our results to those of other similar centers.

This prospective study demonstrates that TUMT can be used for urinary retention with acceptable levels of success and only minimal levels of morbidity and mortality. Nevertheless it has been stated for long time that the golden therapy for BPH is TURP⁵.

Results show that 50 patients (58.1%) were catheter free after two weeks following TUMT, which is the same as that reported by Smith et al.⁵, this percentage was increased into a significant percentage of 88.3% of the remaining 36 patients. This was seen after keeping the catheter for an additional week (P value less than 0.001).

The remaining 6 patients (1.1%) underwent TURP because of treatment failure, Schelns reported magnificent 80% of success for relieving catheter⁶, while

Djavan et al reported an even more success rate with 94% catheter free rate⁷. The same high percent was reported by Van Cavwelaet et al with a 91% catheter free rate. All the above results seems to support and it appear to establish TUMT as an effective treatment for BPH with retention⁸. Mompo.et al, on the other hand report-ed an only 54% catheter free rate⁷.

This study demonstrated that pain was present in 82 patients (95.31%), early haematuria was present in 76 patient (88.31%), while only 7 patients (8.16%) had delayed bleeding 10 days post therapy.

There was one patient who developed gangrene of the penis post therapy as shown in fig.1.

Table I: The number of patients who are free from catheter in relation to period of post TUMT catheterization

	After 2 weeks	After 3 weeks
Catheter free	55	77
With catheter	31	11

Table II: Complications Following TUMT

complication	No of patients	Percent
pain	82	95.3
Immediate bleeding	76	88.3
Delayed bleeding	7	8.1
stricture	1	1.1

Fig.1: Gangrenous penis two months following TUMT

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