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TREATMENT OF BENIGN PROSTATIC HYPERPLASIA AT MATER HOSPITAL, NAIROBI
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# TREATMENT OF BENIGN PROSTATIC HYPERPLASIA AT MATER HOSPITAL, NAIROBI

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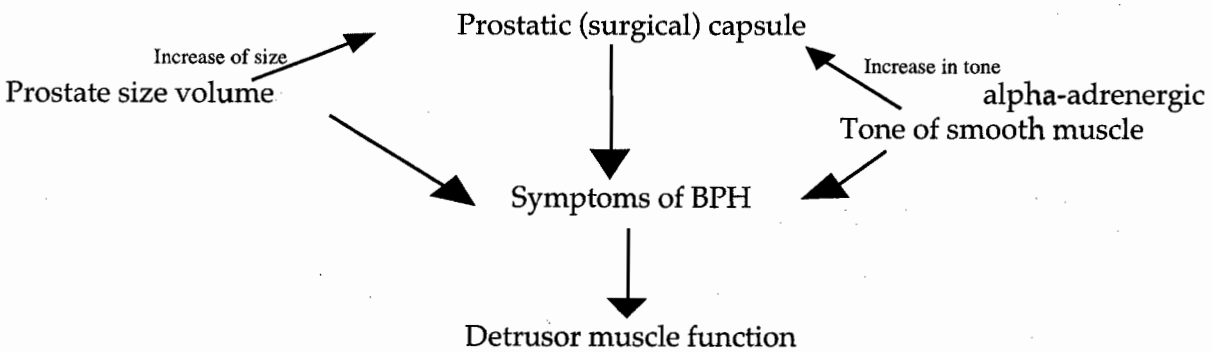
## ABSTRACT

***Objective:*** **To evaluate the use of medical therapy in the management of patients with mild, moderate and severe symptoms of benign prostatic hyperplasia.**
***Design:*** **Prospective study.**
***Setting:*** **Private urology clinic in Mater Hospital, Nairobi between 1995 and 2005.**
***Patients:*** **Six hundred and eighty patients with benign prostatic hypertrophy aged 50-80 years.**
***Results:*** **Two hundred and eighty (43.8%) patients benefited from the drug treatment alone and were released from the clinic follow up after five years. Two hundred and seventy (42.2%) cases could not complete the five years follow up on drugs alone due to symptoms recurrence or severity or unavailability of drugs. They were removed from the drugs alone treatment and put on other interventions. Ninety (15.9%) cases were operated on based on their decision and insistence or severity of their symptoms or no drugs response.**
***Conclusions:*** **This observational study confirms that medical treatment is beneficial in the management of benign prostatic hyperplasia (BPH) and is cheap and gives better first line option of treatment choice to many patients. It also gives hopes to the surgical risk patients. The quality of life (QOL) of patients and their family disturbance is also improved.**

## INTRODUCTION

The prevalence of benign prostatic hyperplasia (BPH) amongst different age groups rises with age. Studies done in some European communities have given figures as follows; for ages 40 to 49 years the prevalence is 14% and ages 50 to 59 years and above as 43% (1). Further studies have revealed that those patients who develop symptoms due to BPH are those with related proportion of stromal hyperplasia to epithelial hyperplasia of the prostate gland (2). This stromal muscular hyperplasia gives rise to higher pressure of the glandular tissue lying in the bladder neck. The hyperplasia results in the enlargement of the prostatic size within the capsule and increases pressure within it. This pressure then produces either mechanical obstruction due to mere size or dynamic obstruction due to tone of the muscle as shown in the sketch diagram below.



The muscle of the bladder neck and the smooth muscles of the prostate gland are supplied with alpha-adrenergic receptors which are affected by stress, anxiety, weather changes or conditions of sympathetic overactivity (3,5). These alpha-adrenergic receptors play a big role in the fluctuation of symptoms of prostatism a part from the mere volume of the prostate gland causing bladder outlet obstruction (BOO) of urine. There has been a lot of research in the area of alpha-adrenergic blockade to relieve the symptoms of BOO (5). More interest has been put on the selective blockade to reduce the side effects caused by non-selective blockade (6-9).

In the changing attitudes of BPH treatment, these ideas interested the author to try medical therapy in the local scene, Nairobi, Kenya. This study was observational taking advantage of the naturally occurring variations in the treatment of BPH patients i.e. the drugs availability, social economy of the patients and demographic factors. The study was conducted in appropriate hospital in Nairobi, Kenya.

## MATERIALS AND METHODS

A total of unselected, non-randomised 640 BPH patients referred to the outpatient urology clinic have been studied. Their ages, duration of symptoms was recorded. They were examined by doing digital rectal examination (DRE) together with carry out transrectal ultrasonography of the prostate to assess the size/volume of the gland. They were given the international prostate symptom score questionnaire (IPSS) to answer and the score were analysed and recorded as mild, moderate or severe. Other investigations were also done. After counselling all patients on the various treatment modes, those that accepted drug treatment were given prescription for selective alpha-blockade drugs antibiotics and analgesics. Those that refused were given other optional treatment modes. The IPSS score down grading and the improvement of bothersome (BS) score assessed the outcomes of medical treatment. Those who improved completely were released from follow up after five years.

## RESULTS

All those with no improvement on drugs were offered alternative treatment modalities. The results show that there was general improvement of the IPSS score in all the three groups of patients, the mild, moderate and the severe. but magnitude was seen in the mild and moderate groups. The score for the mild all changed from score of 0-7 to 0 and moderate group of 320 patients, 104(32.5%) improved to score of 0 and 192 (60%) improved to score of less than 7 and only 24 patients the score remained the same. In the severe group, 162 patients (score 20-35) only eight (4.94%) improved to zero score and 24 (14.81%) improved to score of less than 7 and 130 (80.24%) remained the same.

**Table 1**
*Age in years*

| Age | No. |
|---|---|
| 50-54 | 0 |
| 55-59 | 50 |
| 60-64 | 201 |
| 65-69 | 247 |
| 70-74 | 112 |
| 75-79 | 28 |
| 80-84 | 2 |

**Figure 1**
*Histogram of age groups*

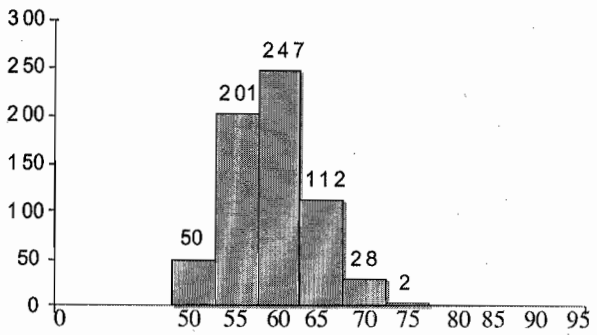



**Table 2**
*Laboratory tests results of haemoglobins*

| Haemoglobin (Hb)gm/dl | 4-6 | 6-8 | 8-10 | 10-12 | 12-14 |
|---|---|---|---|---|---|
| No. of patients | 48 | 32 | 156 | 241 | 63 |

**Table 3**
*Other laboratory results and examination results*

| No. of patients DRE BPH Enlarg. | Nodules | TRUS (Mean C) | PSA ng/m | Urea/Creat | Na+ K+ |
|---|---|---|---|---|---|
| Mild (69) | 0 | 45 | 0.8-3.13 | Normal | Normal |
| Moderate (215) | 4 | 65 | 0.3-4.2 | Normal | Normal |
| Severe (356) | 13 | 75 | 0.5-9.8 | 12 ↑ | K+ ↑ |

**Table 4**
*IPSS Score and Interventions*
*Symptom Score (IPSS)*

| Score | No. of patients | Interventions | Others |
|---|---|---|---|
| Mild (0-7) | 158 | Medical therapy | 0 |
| Moderate (8-19) | 320 | Medical therapy | 24 |
| Severe (20-35) | 162 | Medical therapy | 130 |

After Px score

**Table 5**
*Quality of life (QOL) assessment score*

| Bother Some (Bs) Score | No. of patients |
|---|---|
| Good (0-1) | 72 |
| Medium (2-3) | 388 |
| Bad (5-6) | 180 |

After Px score

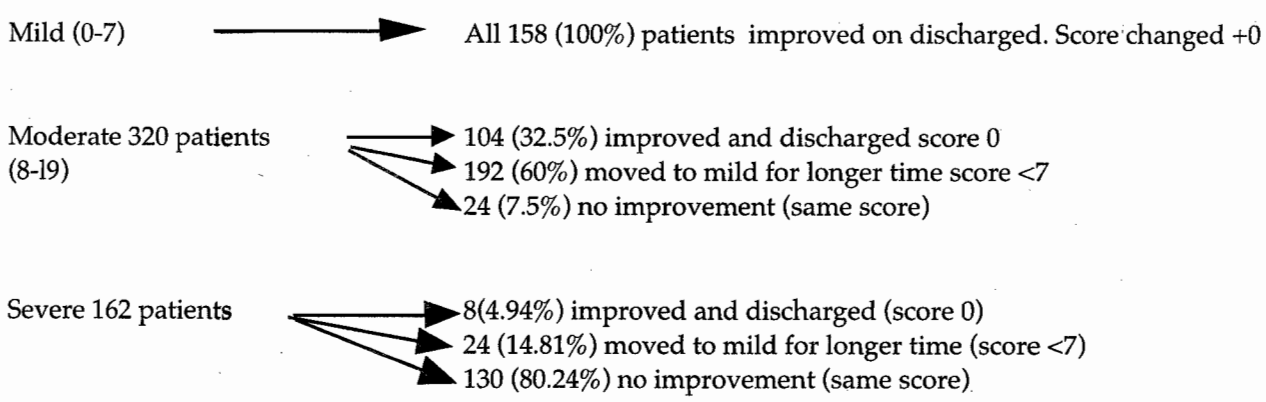
**Table 6**
*Treatment results*

| Treatment | No. | (%) |
|---|---|---|
| Medical (5 year follow up) | 280 | 43.8 |
| Medical (not 5 years) | 270 | 42.2 |
| Surgical (no drugs) | 90 | 14 |

**Table 7**
*IPSS score*

| Pre-treatment No. | Post treatment score |
|---|---|
| Mild (0-7) 158 | All improved to zero |
| Moderate (8-19) | 104 patients scored zero |
| 320 | 192 patients scored less than |
| 7 | 24 patients scored the same |
| Severe (20-35) | 8 patients scored zero |
| 162 | 24 patients scored less than |
| 7 | 130 patients scored same |

**Figure 2**
*Results after five year follow up of BPH symptomatic patients (IPSS score)*



The transrectal ultrasonography measurement of the BPH at the beginning and at the end did not change much as the size of prostate was not altered much. Most patients who did not respond to the medical therapy and were given alternative mode of treatment improved and attained the score of 0 or less than 7 i.e. that failed medical treatment cases benefited from the other modes of treatment.

## DISCUSSION

Bladder outlet obstruction (BOO) in ageing population is prevalent due to benign enlargement of the prostate gland. This enlargement is due to hyperplasia of the glandular tissues and smooth muscle. A lot of research has revealed that the hyperplasia involves the glandular epithelium and the smooth muscles (2). The symptoms of the BOO are due to both increase in size / volume of the gland and the muscular tightness of the bladder neck (4). The bladder neck narrowing has been shown to be due to sympathetic caused by anxiety, stress and weather changes (5). The smooth muscles of the bladder neck have been shown to have higher concentration of alpha-adrenergic receptors and that the blockade of these activities relieves the symptoms of BOO (6). Further research in identifying selective alpha-blockade and therefore reducing the side effects associated with these drugs have improved the compliance of their usage (7- 10).

In the local scene the usage of these drugs has confirmed their use and value especially when the IPSS symptom score is mild or moderate and in few severe cases. The unselected study group of up to 280 cases 43.8% were discharged from outpatient follow up after five years. Perhaps they needed longer follow up to confirm the cure rate. Another group of 270 (42.2%) cases were initially improved on drugs but did not complete the five year follow up. They were then put on other intervention therapy of balloon dilation, catheterization, bladder neck incision while in watchful waiting before final surgical mode of treatment either transurethral prostatectomy (TURP) or open prostatectomy. while in watchful waiting, medical therapy was of use to buy time.

BPH has an adverse effect on the quality of life (QOL) of the affected men partners with direct correlation between partner morbidity and severity of the patients symptoms (16). The patients whose IPSS score was 20-35 (severe) all had their partners concerned and anxious about their condition, sleep disturbance, fear of surgery (and of cancer). Deterioration in sex life was a big worry. Symptoms such as nocturia, increased frequency and urgency disrupted social life and discouraged affected men going to work or venturing into the open social life. The treatment with selective alpha adreno blockade not only relieves the symptoms of prostatism but also improves the patient's sex life (17). This was obviously observed in nearly all the cases studied. This improved sex life is not evident in the other intervention therapies. The common ejaculation abnormalities seen in TURP and open prostatectomy was absent in drug treatment (18).

The use of 5α reductase inhibitor drugs (finasteride, ductasteride) are effective at reducing the symptoms of BPH (16). However, they are expensive and have numerous side effects that make them unpopular. The side effects include erectile dysfunction, reduced ejaculation, decreased libido, breast itchiness and gynaecomastia as compared to placebo (19). This was evident in a few patients who opted to take finasderide (proscar 5mg once a day) for six months.

Irritative symptoms of the bladder due to lower urinary tract infection symptoms (LUTS) need inclusion of antibiotics in the medical treatment regime.

It is important to stress that treatment of symptomatic BPH has changed and that before surgery, counselling and detailed information is given in presence of spouses / partners so that patients make informed decision on the mode of treatment they want to start with. Medical treatment offers a lot of quality of life to the patient and spouses and there is enough evidence of good results and better compliance. The outcomes are overwhelming for mild and moderate sufferers. Severe symptomatic patients also benefit as shown in the figure upto 19.8%.

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