TREATMENT OF BENIGN PROSTATIC HYPERTROPHY BY A NONOPERATIVE METHOD

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At the June 1935 meeting of the American Medical Association at Atlantic City, I gave a clinical report on the treatment of benign prostatic hypertrophy by nonoperative methods before the Section on Urology.

In 1928, we began an experimental research to see if we could find a more tenable explanation of the etiology of benign prostatic hypertrophy. As a result of this experimental work, we believed that an endocrine imbalance was the most likely explanation, and D. Roy McCullagh has discussed our experimental findings in the paper presented in this issue.

In the first preliminary report at Atlantic City, we presented our results in the treatment of 40 cases of benign prostatic hypertrophy and since then, we have added 36 more, so that we now have 76 cases in which we have sufficient records to make the additional report. In spite of persistent efforts, a suitable method of assay has not been developed. For this reason, it has been impossible to determine what chemical fraction of the glands contains the hormone "inhibin," and equally impossible to know whether or not all our preparations were of the same strength and what dose of hormone each patient received. Each patient received the equivalent of 60 grams of fresh beef testicular material daily. The material was completely desiccated in vacuo at 60 degrees Centigrade and was administered in powder form in gelatin capsules.

The type of case in which we have used this medication has varied somewhat, but we have felt that it is most applicable in those cases in which the prostate is of moderate consistency and movable as determined by rectal palpation. Some of the patients had complete retention of urine, whereas others had varying amounts of residual urine and nocturnal frequency. The improvement of symptoms was generally manifested within a week or ten days after treatment was instituted, and maximum improvement was reached within from four to six weeks. No other type of treatment was used. In cases of complete retention, the patient was catheterized regularly or an indwelling catheter was used for a time until the patient could void. In the presence of residual urine or partial retention, catheterization was done only at stated intervals of from one to two weeks in order that any change in the amount of residual urine might be noted.

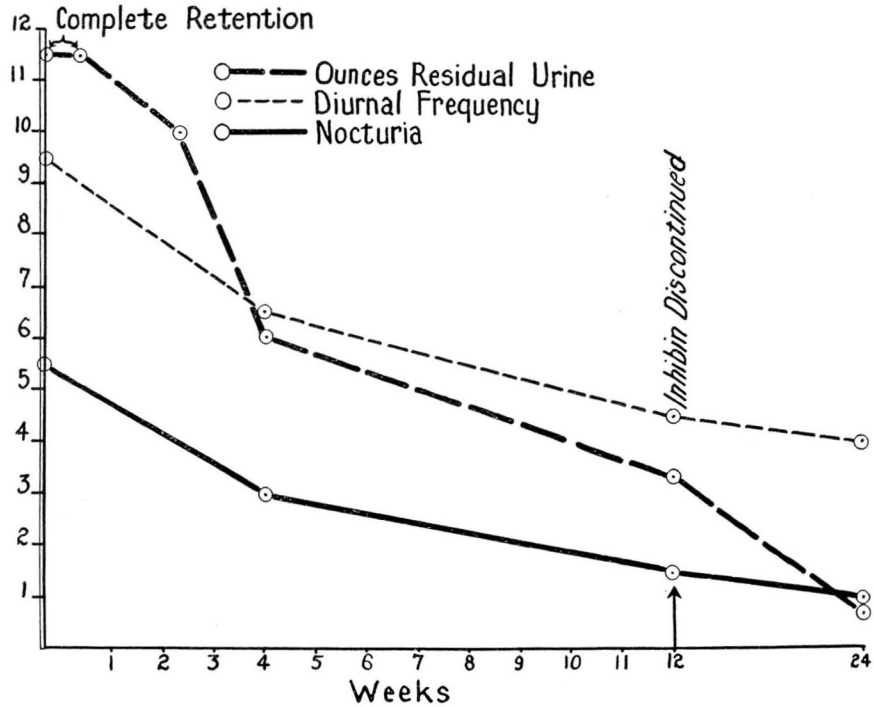

CHART I

The following cases are typical of those which respond to this treatment:

Case 1: The patient was a man, 66 years of age, who came to the Clinic complaining of complete urinary retention. Two or three years before this examination, difficulty in urination had begun which resulted in complete retention of five days' duration.

On cystoscopic examination, the bladder neck showed rather pronounced bilateral lobe intrusion and no median lobe was present. The prostatic urethra was markedly lengthened, and the lateral lobes met in the midline throughout this distance. Rectal examination revealed the prostate to be quite large but fairly firm.

Laboratory examination revealed the blood urea to be 48 mg. per one hundred cubic centimeters, and in view of the poor kidney function and nitrogen retention, it was decided to use medical treatment.

The patient entered the hospital and to care for the complete urinary retention, he was catheterized twice or three times daily. The capsules were administered, and for three weeks no improvement could be noticed. The patient then found that he was able to void a little between catheterizations and this improvement continued until five weeks after inhibin was started, when he was able to empty his bladder completely. He was discharged from the hospital and at that time, the blood urea had returned to a practically normal level, and he felt generally much stronger and better. Chart I shows this

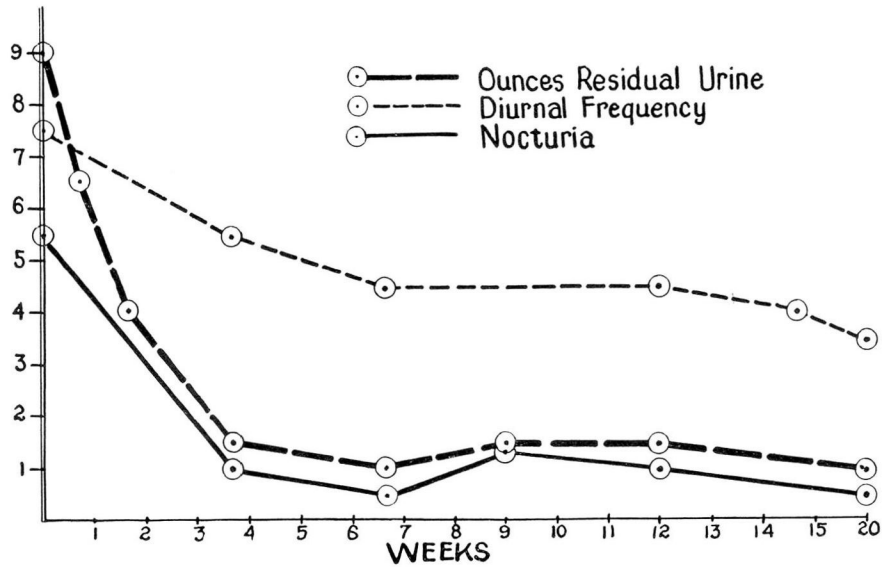

CHART II

patient's progress in regard to the ounces of residual urine, diurnal frequency and nocturia.

This patient now feels so well that he considers himself cured; he voids easily and has nocturia only once nightly.

Case 2: This patient was a man, 55 years of age, who came to the Clinic complaining of practically complete urinary retention. A very small amount of urine could be passed, and catheterization was necessary twice daily. These symptoms began seven years before our examination and several months before admission, nocturia had become a distressing symptom, occurring every 15 or 30 minutes.

Physical examination revealed no abnormalities except for the prostate which was markedly enlarged, smooth and of moderate consistency. Cystoscopic examination revealed an obstructive type of bladder and trilobar hypertrophy of the prostate gland with pronounced extravesical bilateral lobe enlargement.

This type of enlargement is that for which prostatectomy would be recommended but also the type in which one might expect satisfactory results after endocrine therapy. This latter method was accepted by the patient and treatment was begun. After ten days, the patient was able to void so well that catheterization was discontinued and three days later, only 55 cubic centimeters of residual urine were present when he was discharged from the hospital. Chart II shows the progress which this patient made.

This patient has been able to return to his work, is able to urinate almost normally and catheterization yields only a few cubic centimeters of residual urine. Nocturia occurs only once at most and occasionally it is entirely absent.

Case 3: The patient was a physician, 57 years of age, who came to the Clinic with complete urinary retention which had been present for two days

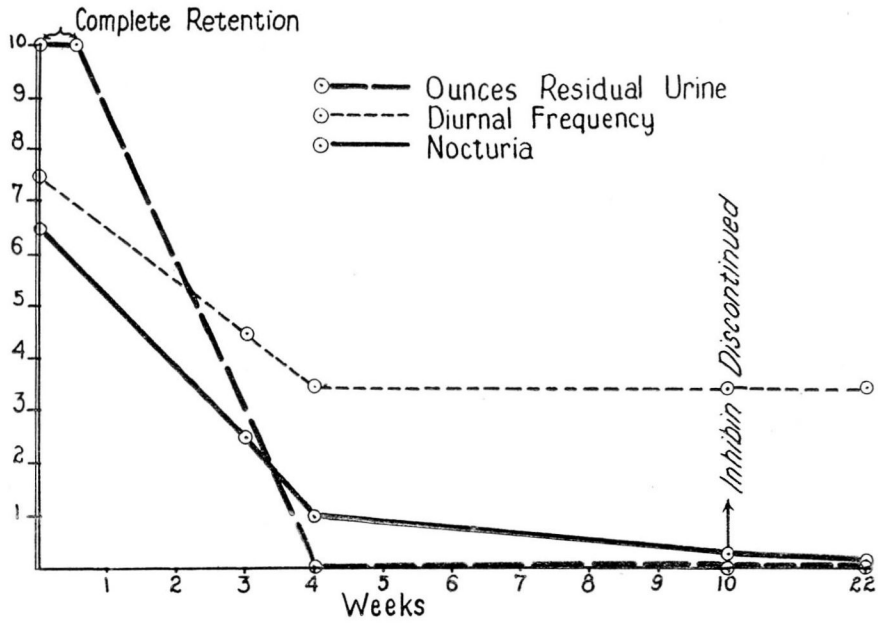

CHART III

and for which he had resorted to self-catheterization. Symptoms of obstruction had begun three or four years before our examination and nocturia from 8 to 12 times had been present for the previous six years.

Physical examination revealed trilobar hypertrophy of the prostate of a smooth, soft type; otherwise, the general physical condition was good.

The patient entered the hospital for treatment with inhibin which was administered three times daily. Intermittent and rather frequent catheterization was necessary during the first few days but after seven days, he was able to void so well that catheterization was discontinued and at the time of his discharge from the hospital—five days later, he was able to empty his bladder completely. (Chart III.)

When we last saw this patient, he considered himself absolutely well. He was able to void freely and easily with no hesitancy whatever. The voided urine was clear, and catheterization yielded no residual urine.

Chart IV shows another case in which the patient was admitted with complete urinary retention. Treatment with inhibin was begun, and nocturia and diurnal frequency were greatly lessened, and no residual urine was present after five weeks.

The first signs of improvement after treatment with inhibin was instituted were decreased nocturia, greater ease in voiding, increase in the size of the stream and reduction in frequency. All patients reported a feeling of general well being. In a few instances, an increase in symptoms was reported, and the medication was discontinued.

In this series of 76 cases in which inhibin has been used, 48 cases

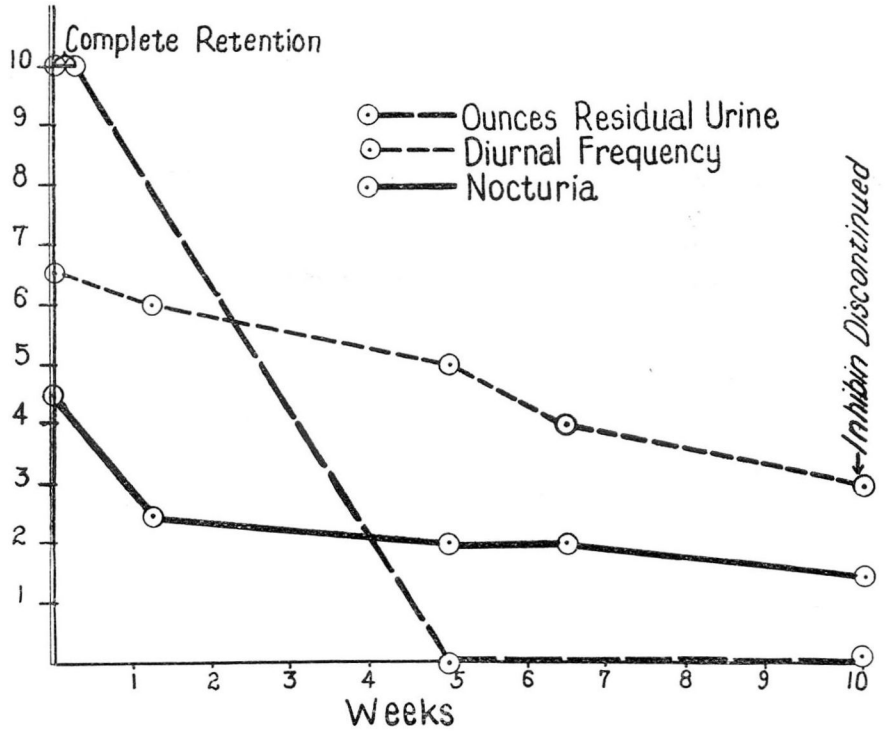

CHART IV

have been improved. The type of gland which was present is shown in the following table:

Type	*Improved and free from symptoms*	*Unimproved*	*Total*
Simple bilateral hypertrophy	14	10	24
Trilobar hypertrophy	17	9	26
Middle lobe hypertrophy	4	4	8
Not specified	13	5	18

The average age of the patients was 67.0 years, the youngest in the group was 54 and the oldest 77 years of age. The longest duration of symptoms in the improved cases was 2.01 years and in the unimproved cases 5.1 years.

It is obvious that a fibrous or a malignant growth would not be suitable for this type of treatment, nor would we expect any benefit to result in those cases which are complicated by such conditions as diverticula of the bladder. It has been stated that 20 per cent of the cases which are diagnosed clinically as benign prostatic hypertrophy prove at operation or autopsy to be malignant. This and the reasons just cited may well account for the failure of 28 of the 76 patients to react favorably to

the treatment. When more refined methods for isolating the hormone are found, we believe the percentage of improvemnt will be greatly increased.

In the unimproved cases, the known causes for the failure to obtain satisfactory results has been as follows in four cases: Previous punch operation and cystotomy, sclerotic type of middle lobe, very atonic and distended bladder and associated diabetes.

The exact *modus operandi* by which this benefit is obtained is not certain. In many cases, there has been no perceptible change in the size of the prostate by rectal examination and neither has there been a very discernible difference in appearance by histological section, although in experimental animals, marked change is noted both grossly and microscopically. Perhaps insufficient time has elapsed for these changes to be apparent. It may be that this group represents the percentage of cases that would improve under ordinary conditions without medication but if this be true, then we have been operating upon too many cases of this type of prostatic hypertrophy. We believe this change in the symptoms to be due to the medication, and we also appreciate, however, that a larger number of clinical cases are necessary before final conclusions can be reached.

Conclusions

Researches with experimental animals demonstrated that a certain type of benign prostatic hypertrophy is the result of an endocrine imbalance. It was then postulated that benign prostatic hypertrophy in man was probably due to a hormonal deficiency of testicular origin. Forty cases of benign prostatic hypertrophy have been treated with a preparation supposedly containing the hormone in question. Sixty-five per cent of the patients have shown definite improvement with regard to their symptoms and general health.