**Treatment of prostatic enlargement / by James Pedersen.**

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# TREATMENT OF PROSTATIC ENLARGEMENT.*

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NEW YORK.

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My purpose in this paper is to discuss the subject broadly, to indicate, if possible, what leads up to prostatectomy and what away from it, to cite cases in illustration and avoid the technical details of the operation in its several modifications. These details have been discussed sufficiently, sometimes to the exclusion of the more important considerations. The subject should be the patient, not prostatectomy; our object should be to net him the best results, not alone to perform an operation seductive because of the skill required and radicalism implied. Perfection in technique does not justify an operation not indicated.

The first of the important considerations is: When shall surgical intervention be advised? The second, logically: Which is the operation of choice in the patient under treatment? As to the time for surgical intervention, three teachings are recognized: (1) Immediately upon the first retention; (2) as soon as catheter life has to be begun; (3) when catheter life fails. As to the operation of choice we have to

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consider, in the order of our preference, (1) perineal prostatectomy; (2) suprapubic prostatectomy; (3) prostatotomy by means of either a bistoury applied through a perineal incision or Bottini's galvano-cautery incisor.

At the present stage of our knowledge it is not possible, in my opinion, to say categorically when surgical intervention should be advised. We need more detailed, descriptive, and searching statistics, especially as to end results, on both the conservative and the radical sides. The exclusive advocacy of one operation as the operation of choice, I beg to submit, is unwarranted and futile. The variations in the state, degree, and complications of the pathological condition to be relieved should preclude a fixedly preconceived operation of choice.

Recent statistics of significant value are contained in the comprehensive paper by Belfield in Vol. IV of "Progressive Medicine," December, 1905. Further condensed they would show that the English and French, the former especially, advise the suprapubic operation; that the Germans are almost evenly divided, the slight though important preponderance being, however, on the same side; that with us the apparent choice is the perineal; that the mortality abroad and at home practically agree at about 9 per cent. as to the perineal operation and at about 5 per cent. as to the suprapubic, making about 7 per cent. for all cases. This differs from Watson's statistics based on an exhaustive analysis of 2,627 cases variously operated by 100 different operators (*Annals of Surgery, June,* 1904). He gives the mortality in 530 cases of perineal prostatectomy as 6.2 per cent.; in 243 cases of suprapubic prostatectomy as 11.3 per cent.; in 1,086 cases of Bottini's operation as 6.3 per cent., and in 207 cases of catheterism at 7.7 per cent.

I would agree with Belfield in commending Whiteside's paper (*American Journal of Urology*, July and August, 1905), in which a timely protest is entered against excessive enthusiasm for operating and a just criticism is made of the lack of ante-operation details. In a group of 238 mixed cases, Whiteside finds "absolutely good results in only 30 per cent.," a mortality in perineal prostatectomy of 20 per cent. in 36 cases reported by nine operators, of 8 per cent. in Murphy's 51 cases, of 5 per cent. in Young's 75 cases, and of 3 per cent. in Goodfellow's 75 cases. He pointedly remarks that the average of these mortality figures is not much better than the 13 per cent. given as the mortality twelve years ago, and he rehearses the "untoward results" found among the 36 cases already cited. While commending both his protest and his criticism, I cannot agree with his comparison. A just comparison cannot be drawn except from the statistics of a longer series of cases furnished with ante-operation details and "end-results" by several operators of more nearly equal skill. Supporting my point is the fact that Freyer's mortality of 10 per cent. in 110 suprapubic prostatectomies falls to 5.8 per cent. if his first 25 operations are thrown out and the results of the remaining 85 alone are computed.

I would next comment upon Albarran's report, the conclusions in which are drawn from his study of the end-results in his cases of perineal prostatectomy, 44 of which were inspected a year after operation and 15 after from three to four and one-half years had elapsed. All but 7 are regarded by him as complete successes in that they totally empty the bladder. Of these 7 failures (4 partial and 3 complete) he remarks as noteworthy, that 5 had small prostates and incomplete retention. The total number of *small* prostates he subjected to prostatec-

tomy was eleven. Five of these had an enlarged median lobe; its removal was followed by a perfect result. Six had no enlarged median lobe and netted only one perfect result. He calls the pathological state presented by these six cases, chronic hypertrophic prostatitis. He says that it sometimes eventuates in complete retention; but that the partial retention is not due so much to visible obstruction as to imperfect opening of the urethrovesical orifice.

It is pertinent to remark here that these are the cases in which prostatotomy by either the Bottini instrument or a bistoury is of service when any surgical intervention is indicated, and that, as Albarran says, they are rarely benefited, in fact are often made worse by prostatectomy.

CASE I., incipient prostatic enlargement, illustrates the value of palliative treatment in postponing indefinitely the necessity for radical measures.

V. R., 51, married, always a hard manual worker and looking older than his given age, had suffered frequency of urination, slight hesitancy and initial pain for two years. These symptoms had developed gradually; it was two months before they had reached their climax. The frequency rose to an hour and a half, and the complete emptying of the bladder meant a teasing desire gradually relieved by the discharge of a small quantity of urine every fifteen minutes. That the quality of his urine had had something to do with his symptoms is evidenced by two facts: the occurrence of a general pruritus apparently of lithemic origin concomitant with his greatest frequency, and the slight, temporary improvement that had followed medication by his physician. Recently the frequency had been two hours. He had had no venereal disease. His sexual life, which began with his marriage at 26 years of age, had been normal, barring a moderate frequency in

coitus during the first five years. Desire began to wane with the onset of the bladder symptoms and he had not cohabited in the past six months. Examination showed three ounces of residual urine and an enlargement of the prostate, the left lobe especially, as felt by rectum.

Under treatment that comprised irrigations with and instillations of silver nitrate solutions, and digital massage of the prostate, his frequency at once began to decrease and his residual urine to diminish. This improvement has been constant and progressive. Since the eighth week he has been able to hold his urine three hours comfortably and up to four hours when necessary; he has not had to urinate more than once a night—many nights not at all—and the residual, accurately measured, is two drachms. His urine has been and is of normal appearance; the urethral length is 8½ inches; the prostate is now about normal in size, but dense and hard, the left lobe especially. He declares he is comfortable and that his urination is steadily improving. It is probable that if he could modify his diet and improve his assimilation, a further reduction in his diurnal frequency would result.

Case II. illustrates a class, many of which, undoubtedly, have been hurried into an unwarranted operation. It raises the question whether it is good practice always to perform prostatectomy on the occurrence of the first retention. The case is typical and not rare.

V. Q. J., 63, single, had been in the habit of holding his urine for an hour or more overtime during the preceding two years. Apparently, however, he experienced no urinary symptoms until a recent vacation that exposed him to unexpected discomforts and coarse, poorly-cooked fare. Within a few days there developed frequency, some ardor, considerable

tenesmus, and incontinence whenever recumbent, awake or asleep. The frequency was fifteen minutes day and night. The incontinence amounted to a few drops when he was awake; but to a large volume when asleep. Under medical treatment by his physician the symptoms persisted for a week, then began to abate gradually. When he was referred to me, seventeen days after the onset, the diurnal frequency was only an hour and a half, only slight ardor remained, and the tenesmus practically had ceased; but the nocturnal frequency had been entirely superseded by the incontinence, made worse by the large quantities of water he was drinking by advice.

He has always been a total abstainer from alcohol; he has not used tobacco in twelve years; he drinks coffee twice daily. There is a history of a venereal lesion fifteen years ago without sequelæ. His sexual life has been extremely negative.

Examination showed an overdistended bladder reaching to the umbilicus and obscuring the contour of the prostate by bulging downward toward the rectum. Out of respect for the patient's exhausted condition and timidity, instrumentation was not undertaken on this occasion, his first visit; but the daily allowance of water was reduced to physiological limits, his coffee was restricted, and his fluid diet was replaced by solids. He refused to remain in bed until it should become imperative, though the possibilities were told him.

Within forty-eight hours the ardor and incontinence had begun to lessen, and when he reported to me at the end of that interval he was able almost completely to control the diminishing overflow. He had urinated only three times during the night. Gradual relief of the overdistended bladder was now begun. That night he rose but twice and had no

incontinence. It never recurred. The next morning, at my office, after he had voided four ounces as usual, four and a half ounces were drawn, emptying the bladder, thus establishing four and a half ounces as the initial residual. That night he urinated but once. Three nights later he began to sleep through without urinating, and at the end of a week, after he had been taught to urinate in "editions," the residual was found to be only two and a quarter ounces. Seven weeks later, when tested again, it was only one and a half ounces; his diurnal intervals were two hours long on occasions, but three hours long as a rule; there was no nocturnal urination and he had recovered his strength. Two weeks later when he reported, he could hold his urine four hours. This condition obtains to-day. The urethral length is 8¼ inches; the prostate, by rectum, is broad, flat, and moderately enlarged; the urine is sterile.

In other words, this patient had complete retention, overdistention, and incontinence, due to an acute congestion of his enlarged prostate, all of which disappeared under treatment, leaving him absolutely as well as before. Barring the first three weeks, he was not seriously incovenienced nor kept from business, and had the retention been recognized the moment the incontinence developed or earlier, this period of three weeks would have been significantly shortened. The very prompt return of power to his detrusor is noteworthy. This result gives me satisfaction, and, considering the patient's temperament, environment, and lack of vigor, I think the satisfaction justifiable. To have operated would, I believe, have exposed him to an unnecessary risk.

Case III. illustrates a phase of catheter life that leads to a change of advice.

V. L., 60, married, when referred to me three years

ago, gave the following history. For the past seven years he had been passing a soft rubber catheter once daily and irrigating regularly. He had gone along very comfortably holding his urine as long as seven hours, suffering only off and on from attacks of prostatitis and exacerbations of his chronic cystitis. Ten days before his visit an unusually severe attack had developed with the usual symptoms—great frequency, some urgency, sharp tenesmus. After a week he stopped passing his catheter on finding that the residual was only a very little instead of "the quart" he had been accustomed to draw. He had had urethritis thirty years before and syphilis "two or three times." His habits as to alcohol, tobacco, and coffee were good.

Examination showed a large man in fair general condition. He urinated a feeble, dribbling stream. A soft rubber catheter entered easily and found four ounces of residual urine. The prostate was large, full, boggy, and symmetrically ovoid, as felt by rectum; it presented considerable intravesical enlargement to the searcher. There was no calculus. The membranous urethra was narrowed to 25 F.

After five days of preparatory treatment, including gradual dilatation of the membranous urethra, cystoscopy became possible and was performed. It proved the absence of calculus and demonstrated a large median lobe with considerable enlargement of the left as compared with the right. He remained under observation and treatment eleven days longer, then disappeared, the attack and exacerbation having so far subsided as to make catheterism only twice daily sufficient. The dilatation of the membranous urethra had reached only 29 F. Prostatectomy was offered, but not urged; the man's average comfort more than outweighing the very infrequent and temporary discomforts.

He appeared a year ago complaining that all voluntary urination had ceased, necessitating catheterism four or five times every twenty-four hours, including once at night, and that for the past three months he had suffered from recurring attacks of epididymitis.

After five days of treatment under observation it was clear that catheter life in his own hands had come to an end. Perineal prostatectomy was performed, the intravesical outgrowth as estimated by searcher, cystoscope, and rectal touch not being so large as to demand the suprapubic operation, and a complicating calculus having been excluded.

The patient made an uneventful recovery aside from a slight febrile movement the first three days and a mild phlebitis later on in his long-standing varicose veins of the leg. The iodoform gauze packing was removed the first day; the tube at the end of forty-eight hours. He was up on the tenth day and left the hospital on the eighteenth. The perineal wound had closed permanently; but he suffered a slight incontinence whenever the bladder became full, on which occasions he voided from eight to nine ounces, leaving a proven residual of three ounces. There was no nocturnal urination. Six days later he passed a small, black, irregular calculus with yellowish incrustations—undoubtedly a prostatic calculus that had been forced from its follicle during the prostatectomy.

Under persistent after-treatment the chronic cystitis improved and the residual fell to one and a half ounces. It is now stationary at two ounces. The incontinence obliged him to wear a urinal for about two weeks and continued in varying but gradually decreasing degree, favorably affected by rest and massage of the prostate, unfavorably by exercise and any dilatation of the urethra beyond 20 F., until at

the end of six months it ceased. A few drops escaping when his bladder is very full and he is fatigued is all that remains of it to-day. His urinary intervals have been normal since he left the hospital; very rarely has he had to urinate at night; his general condition and health are good; he has gained about 18 pounds. For a time his potency was as before the operation; but latterly it has shown a decline.

In view of the otherwise good result, it is to be regretted that the very last portions of the prostate were not removed. Had this been done he might have been permanently relieved of all residual urine and that, in all probability, without having increased or prolonged his temporary incontinence.

CASE IV. brings out one of the indications for suprapubic prostatectomy and presents other interesting features.

I. E., 68, married, came under observation last June in a forlorn condition due to prolonged suffering and neglect. The salient points of his long history were, that, about three years ago (having been on catheter life), he had had galvanocautery prostatotomy performed through a perineal incision; that he had left the hospital unimproved, had visited many dispensaries without benefit, and that from time to time sudden attacks of retention had occurred which he had relieved by passing the soft rubber catheter he used regularly before the prostatotomy. His constant subjective symptoms were great frequency, some urgency, marked tenesmus, and exhaustion.

Very little study showed that the attacks of retention were mainly, if not wholly, due to spasm. Under test, the bladder capacity was about two ounces. The searcher promptly detected a calculus and suggested a second. When cystoscopy became possible it revealed a deep, median groove below the

internal meatus; prominent lateral lobes bounding this groove; a phosphatic calculus lodged beyond the border of the right lobe and partly overhung by it, and a second calculus, apparently caught in a secondary groove above the level of the internal meatus.

Knowing that the true state of the prostate could not be determined until some time after the calculi had been removed, litholapaxy was undertaken. Much to my chagrin the calculi could not be dislodged; only their free portions could be seized and crushed. A suprapubic cystotomy was therefore subsequently performed. The actual enlargement of the prostate was much greater than suspected; it resembled a thick ring obliquely surrounding the internal meatus. The groove dividing the median lobe was not deep enough to completely drain the bladder. The remains of the calculi were removed, complete prostatectomy was performed, and drainage above and below established.

The patient's powers of resistance were so low that the suprapubic wound became badly infected as soon as the tubes had been removed, which was on the fourth day. The perineal tube therefore had to be reintroduced. It was not until eighteen days later that it became permissible to remove it permanently. Thus, unavoidably a perineal sinus resulted which persisted despite every attention on my part consistent with his daily work, leaking more or less continuously for four and a half months. He left the hospital on the thirty-fifth day with the suprapubic wound firmly healed. Incontinence, apparent as soon as the perineal tube had been removed, persists, obliging him to wear a urinal. As was the case with the leakage, the incontinence ceases when he lies down, sometimes when he sits down. There is no nocturnal urination. On rising in the morning he voids from six to eight ounces in a free,

forcible stream. The urine is feebly acid; but contains an excess of mucus and a few flakes and small shreds.

Possibly the patient could have been classed among those who do better when a preliminary suprapubic cystotomy is performed to rest the bladder by drainage and allow the patient to recuperate his vitality before undergoing the prostatectomy. He has, however, done well, all things considered. He has gained flesh and strength; he is now able to do a full day's work in the factory with fair comfort. Sexually, he is as negative as he was for some time before the operation.

CASE V. illustrates the condition called "prostatism without enlargement," the treatment of which calls for considerable study.

F. K. M., 67, married, complained that for "several years" past he had had to urinate once during the night and for a year past had had diurnal frequency—from once every hour to once every three hours, depending upon the quantity of fluid ingested and upon the character of his immediate mental occupation. To these facts he voluntarily added that some form of urethral instrumentation, given him three times weekly for six months about a year before, when the diurnal frequency first developed, had been of no benefit; but that after three days of treatment in bed for a gastrointestinal disorder, the urination had returned almost to normal and had so remained for "several days." He had escaped the venereal diseases, though his sexual life began when he was seventeen years old. From the day of his marriage until he was 50 he had cohabited several times weekly, thereafter once weekly, and had practised withdrawal regularly until he was about 45. He was still vigorous sexually, and now cohabited normally with perfect satisfaction. He

had been a total abstainer from alcohol and coffee for the past year and from tobacco for the past thirty years. Considering his partially sedentary life, he was overeating and was not drinking enough water between meals.

Examination showed a healthy, active man, vigorous alike in mind and body. His urine, voided in a good stream without the slightest abnormal sensation, showed uric acid and calcium oxalate crystals in abundance, thus confirming the suspicion that the quality of the urine might be a partial cause of his frequency. The residual urine amounted to one and a half ounces. The prostate, by rectum, was of the small, firm variety, indicating interstitial changes. It was slightly tender. The urethral length was 8 inches.

Under regulation of his diet and fluids, supplemented by local treatment, the residual soon fell to half an ounce and the urinary intervals lengthened to an average of two hours when at his desk, to somewhat longer when exercising, and to four hours when recreating. Coitus once weekly not only was allowed, but also advised, observation proving in his case that it added to his comfort by helping to relieve the prostatic congestion.

This patient has been under my observation nearly two years. During this period he has had three slight and two sharper exacerbations, the former marked by increased diurnal frequency, the latter by a nocturnal frequency as well, plus, on two occasions, the characteristic pains of prostatic hyperemia. Coincidently there was an increase in the residual urine; but it never reached the original ounce and a half. The average residual to-day is six drams. Retention has never even threatened. All five of the exacerbations followed definite errors in diet; two were accompanied by subacute rheu-

matism in certain joints; one was aggravated by an unsatisfactory coitus. Through all, the urine has kept its normal appearance. None of the exacerbations kept him from business. In the intervals the days have been few when he could not hold his urine five hours if necessity demanded, though more frequent urination was more comfortable. Though this degree of frequency is an interruption, it is not an interference in his case; therefore even so comparatively trifling an operation as dividing the prostatic bar with bistoury or the Bottini instrument in the hope of further improving his bladder function has not been advised. In my opinion he is as near normal as a man of 69 can expect to be, and by reasonable attention to his diet, habits, and mode of life, I believe he can always keep his "prostatism" under control.

Whereas Bottini's operation has failed of universal application, it nevertheless has a well-defined, though limited place in the surgery of the prostate. This should be more generally conceded than it is, as the end-results reported by competent observers are undeniable. Granting that surgical intervention is demanded in the given case, the indications for the Bottini operation are: Prostatic bars; Albarran's chronic hypertrophic prostatitis without median lobe enlargement of any extent (chronic contraction of the vesical neck); advanced carcinoma of the prostate (Willy Meyer); prostatic enlargement when positive contraindications to prostatectomy exist. The contraindications to prostatectomy are those of any major operation; but advanced kidney disease probably will become less of a contraindication than in other fields of surgery, in proportion as operators attend to the preparatory treatment for prostatectomy, and as the two-stage operation comes more into vogue in critical cases. Among

the writers making special mention of these points is Albarran, who counts chronic overdistention of the bladder and systemic infection from the bladder contraindications to prostatectomy until those conditions shall have been first relieved by catheterism, irrigation, and, if necessary, by drainage. It is doubtful whether we can yet assure a patient that he will be both potent and virile after prostatectomy. More evidence is needed. The procreative power, therefore, when made an imperative requirement, will still be a contraindication to any radical treatment. Old age, taken alone, is no contraindication.

Taking the patients with the symptoms of prostatic enlargement as they have presented themselves to my observation, the foregoing cases being type-illustrations, it is my opinion that the teaching which advises surgical intervention as soon as catheter life fails, comes nearest to being correct. Even this cannot be accepted, however, without further definition and a clear understanding of its qualifications. Thus, catheter life may fail at once upon attempting to establish it, or not until it has progressed for years; the patient may be unwilling to enter upon it, and insist upon immediate radical measures; the patient's susceptibilities, his intelligence, and his dexterity are factors for or against trying catheter life. Who shall say that the intelligent, dexterous man, able to care for himself, or that the man of extreme sensibilities, able to have a trained attendant, will not live at least as long and as comfortably as to his bladder function as his less fortunate neighbor who had to submit to an early operation, which, though it has enabled h'm to urinate perhaps with comfort, has not necessarily freed him from all complications nor sequellæ? Attention may be called at this point to what is implied in Albarran's statement that perineal prostatectomy is preferred because of the lower

mortality; but that suprapubic prostatectomy will become the operation of choice as soon as the technique shall have been perfected, its results being remarkable, because it is followed by "no permanent fistulæ, no cicatricial contractions about the neck, no injuries to the rectum, no loss of sexual power."

My paper is not a plea for catheter life as opposed to prostatectomy, for bare conservatism as against bare radicalism. It is submitted as an argument for discriminate intervention as against indiscriminate operating; for finer distinctions in the field of indications, and for a rational application of all the known methods and means of treatment in such proportions as shall gain the maximum results for each individual patient suffering from the condition known by the generic term, prostatic enlargement.

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