

CONSERVATIVE PERINEAL PROSTATECTOMY.¹

THE RESULTS OF TWO YEARS' EXPERIENCE AND REPORT OF SEVENTY-FIVE CASES.

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THE time seems to be ripe for a study of results, and it is my intention to-day to give a summary of the results obtained by prostatectomy through the perineal route by the technique previously described by me. (*Journal of the American Medical Association*, October 24, 1903, February 4, 1905; *Monatsberichte für Urologie*, 1904, Band ix, Hefte 5, 6.)

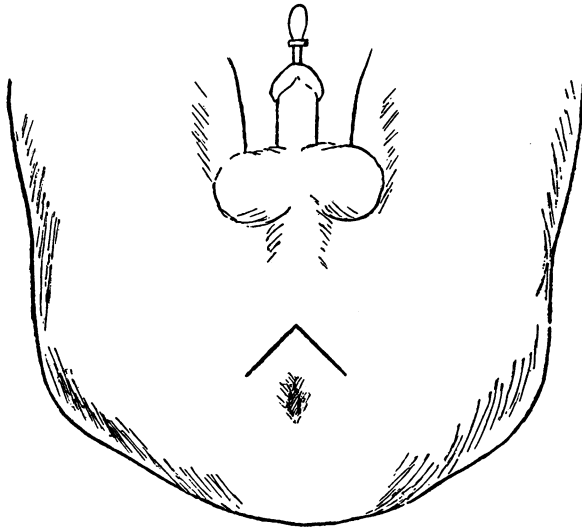


FIG. 1.—The inverted V cutaneous incision.

In these papers the technique of the operation has been so fully detailed that I will not now make a repetition of its

¹ Read before the New York State Medical Society, February 1, 1905.

various steps. Suffice it to say that the enucleation of the prostatic lobes is accomplished as shown in the accompanying drawings: Fig. 1 shows the inverted V cutaneous incision, each branch of which is about two inches long. This incision is simply carried through the fat and superficial fascia, the remainder of the operation proceeding by blunt dissection with the finger or handle of the scalpel, with the exception of those median line structures, the central tendon and recto-urethralis muscle which require division. In this way the posterior surface of the prostate is exposed with no more injury than through a median perineal incision, and one has the great advantage of being able to retract the rectum much better, thus giving a much closer and wider exposure of the prostate. The technique is not an "extensive dissection of the perineum" at all. Indeed, no important muscles are divided, and the wound heals as rapidly as a median one; in fact, it is the same, with the exception of the cutaneous portion.

Fig. 2 shows the retraction of the rectum, the exposure of the membranous urethra behind the triangular ligament, and the urethrotomy, performed on a grooved staff preparatory to the introduction of the tractor. (Fig. 3.) Great care should be taken to engage with sutures (or, better, with artery forceps) the mucous membrane of the urethra before attempting to introduce the tractor. After its introduction into the bladder, the blades are opened out (Fig. 4) and traction made, as shown in Fig. 5, thus bringing the prostate down into the wound, so that its posterior surface is presented. The capsular incisions which are made so as to leave the "median ejaculatory portion" undisturbed, as shown in Fig. 5, should be made about one and one-half centimetres deep, after which the external enucleation of the capsule (Fig. 6) and the internal enucleation of the urethra from the lateral lobes can be carried out with a blunt dissector. After the capsule and urethra have been thoroughly freed from the lobes, the deeper enucleation can best be done with the index-finger. In this procedure the tractor is often of the greatest service in drawing the prostate well into the wound, marking out the course

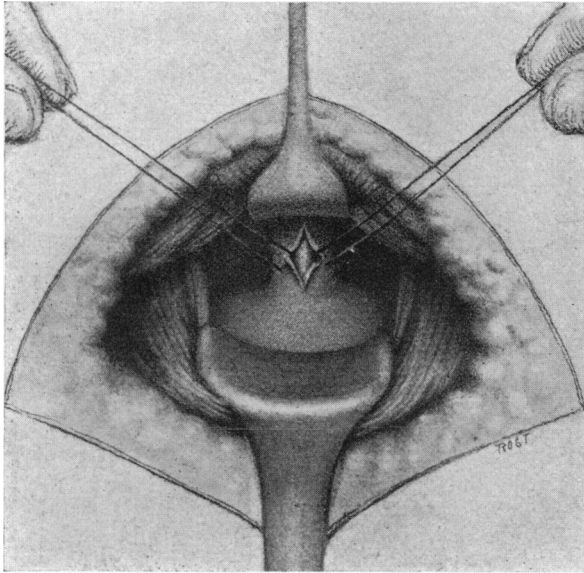


FIG. 2.—Opening of urethra on sound, preparatory to introduction of tractor.

of the urethra, and indicating when the enucleating finger approaches the vesical mucous membrane. The fenestrated blade is so easily palpated through the mucous membrane when the intravesical portion of a lateral lobe is reached, that one is at once placed on his guard and should rarely make a tear in the thin mucous membrane covering it. I now find the lobe

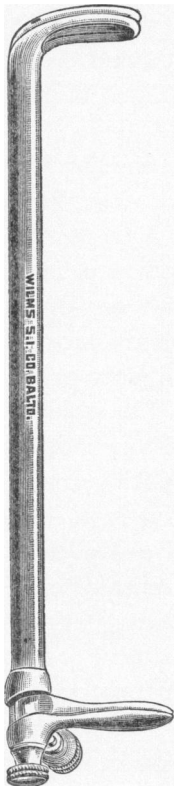


FIG. 3.—The tractor, closed.

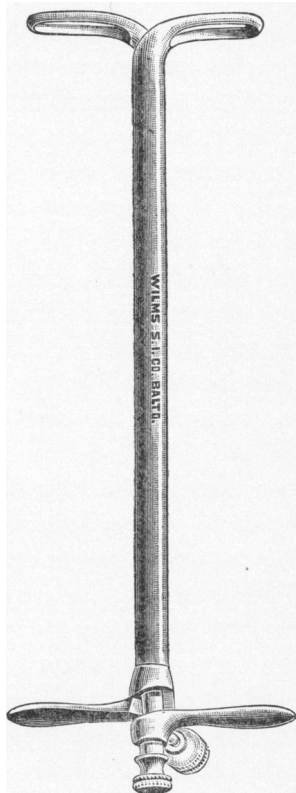


FIG. 4.—The tractor, opened.

forceps, shown in Fig. 6, rarely necessary for the enucleation of lateral lobes, the tractor and finger generally sufficing. The use of ordinary forceps on the lateral lobes with traction generally leads to tearing them into multiple pieces. Each lobe should be removed in one piece, if possible. Morcellement is nearly always a poor technique to employ and unnecessary.

If a median lobe or bar is present, it can generally be removed by engaging it with one blade of the tractor, making traction and rotating at the same time. This will generally cause the lobe to present in the left lateral cavity (Fig. 7), where it can be engaged with the small lobe forceps, or, if it is too small for these, by some small toothed forceps, and enucleated or cut away with scissors.

If it is too small to be engaged with the blade of the tractor, this instrument may be removed and the index-finger of the left hand inserted through the dilated urethra and used as a tractor, as shown in Fig. 8.

In certain cases in which a fibrous median bar or lobe is impossible to remove by the technique described above (in which every effort has been directed to leave the "ejaculatory bridge" undisturbed), it may be necessary to deliberately cut through the capsule covering the ejaculatory ducts, and thus expose and enucleate or excise the median prostatic enlargement, as shown in Fig. 9. This can be done without cutting into or removing the urethral floor. The objections to this method are that it destroys the ejaculatory ducts and leaves the torn ends of the vasa deferentia opening into the wound, which nearly always becomes suppurative in a few days, thus inviting an ascending infection, epididymitis, etc.

I feel sure that the frequent occurrence of epididymitis in the cases of Albarran, Murphy, and others, is due to the fact that the ducts are destroyed, and their natural protective valve-like urethral orifices replaced by patent torn ends of the vasa opening into a suppurative cavity.

If a vesical calculus is present, it can be removed without tearing away the urethral mucous membrane by simply dividing the lateral wall of the urethra and dilating the vesical neck, as shown in Fig. 10. In this way I removed a stone measuring two inches in diameter. Although unnecessary, the divided urethral wall was sutured in this case.

In some cases simple dilatation of the prostatic urethra will suffice for the insertion of forceps and the removal of the stone.

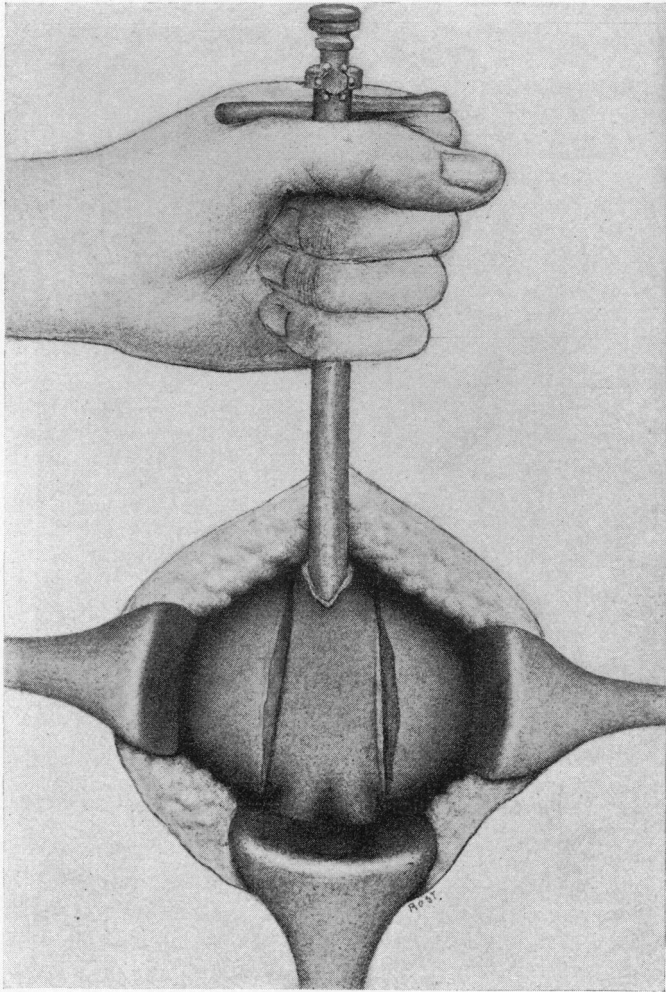


FIG. 5.—Tractor introduced, blades separated, traction made exposing posterior surface of prostate. Incisions in capsule on each side of ejaculatory ducts.

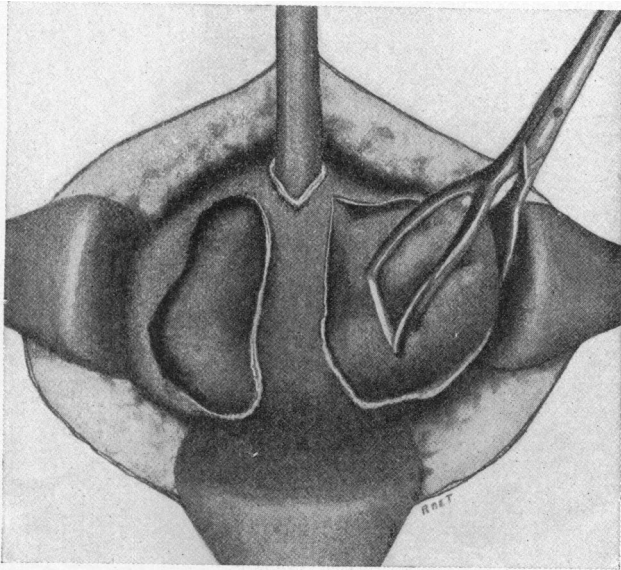


FIG. 6.—Enucleation of lobes. Forceps in position.

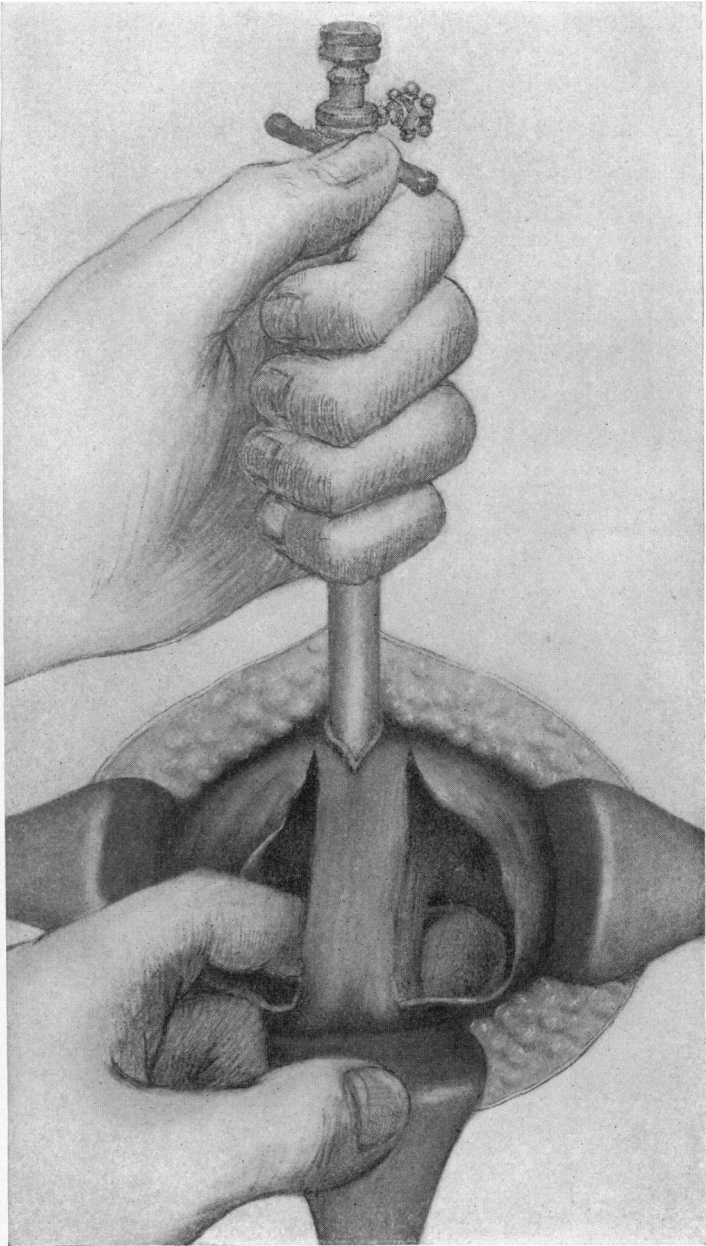


FIG. 7.—Showing technique of delivery of middle lobe into cavity of left lateral lobe.

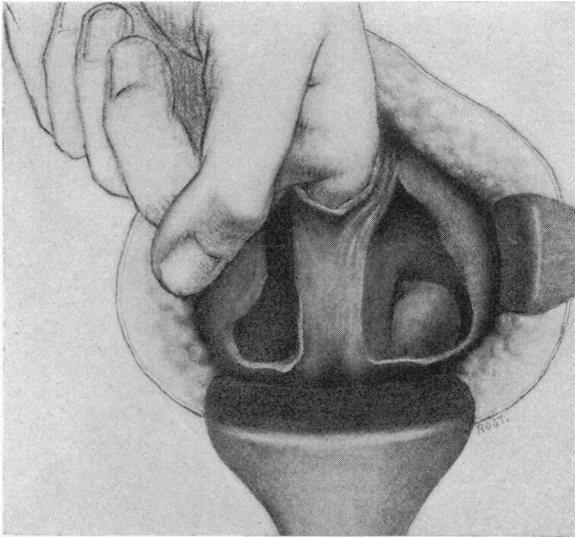


FIG. 8.—Showing use of finger instead of tractor to draw down small median lobe into lateral cavity.

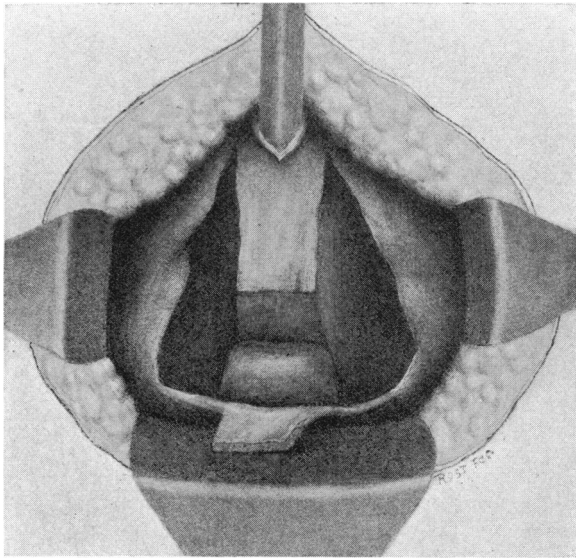


FIG. 9.—Showing suburethral method of enucleating median bar.

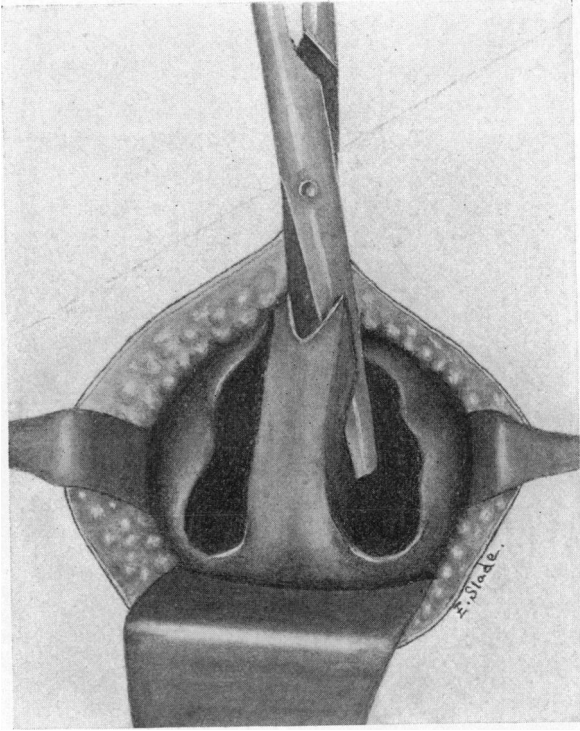


FIG. 10.—Showing division of lateral wall of urethra to allow extraction of large calculus through lateral cavity.

After completion of the operation upon the prostate, a double drain (two catheters tied together) is inserted into the bladder, fastened by a suture at the apex of the skin wound, and continuous irrigation begun. The lateral cavities are packed with gauze, but no extracapsular packing used.

The index-finger of the right hand encased in a rubber glove is then inserted into the rectum, and its anterior wall examined by palpation with the other index-finger. If the operator has been careful to divide the recto-urethralis muscle, and to hug the membranous urethra and capsule of the prostate, no injury should be found. It is nevertheless advisable to support the naturally thin rectal wall by drawing together the separated edges of the levator ani muscles, which form its normal covering. Only one catgut suture is necessary to thus restore the perineum and keep the rectum from being pressed upon by the packing, which is removed on the second day along with the tubes.

The after-treatment consists in abundance of water by mouth (or infusion), getting the patient out of bed as soon as possible, and avoidance of instrumentation.

Results.—During the past two years I have operated by this method 75 cases. Their ages were as follows: Over 80 years, 4 (81, 82, 82, 87). Between 70 and 79 years, 23; 60 and 69 years, 29; 50 and 59 years, 14; under 50 years, 5.

Mortality.—Among these seventy-five cases there were no deaths definitely attributable to the operation, in that all reacted well and convalesced satisfactorily for at least two weeks after the operation. I believe, however, that all deaths should be included, and therefore place in the mortality column the four deaths which have occurred.

CASE I.—Man aged eighty-one years, entered the hospital with a bladder holding about three litres, could not be catheterized, was aspirated for four days, perineal prostatectomy then performed, with satisfactory convalescence for three weeks. After that the patient gradually became uræmic and died five weeks after the operation.

CASE II.—Man aged seventy-two years, in good condition. Perineal prostatectomy, reacted well, out of bed and walking in a week, fistula closed under two weeks, and patient ready to go home. On fourteenth day patient in excellent condition, voiding urine naturally. High enema given on account of constipation; immediately afterwards sinking spell and death in a few minutes. Autopsy, pulmonary embolism. Bladder and kidneys in good condition.

CASE III.—Man aged seventy-six years, entered hospital with complete retention, nausea, vomiting, high fever. Had had nausea, vomiting, and symptoms of chronic uræmia for six months. Catheterization and drainage for about ten days, condition somewhat improved. Perineal prostatectomy, reacted well, after a few days recurrence of nausea, vomiting, inability to take nourishment for two weeks. Death. Autopsy, double pyohydronephrosis, ureters dilated to size of thumb.

CASE IV.—Man aged eighty-seven years. Very large prostate, patient in good condition. Perineal prostatectomy, patient reacted well. Walking during the second week, temperature normal, convalescence good. Sudden development of cough, fever, signs of bronchitis on twenty-first day after operation. Transferred to medical department. Rapid spread of consolidation, death on the twenty-fifth day. Double pneumonia.

In reviewing these cases, I feel satisfied that no other treatment could have saved Cases I and III, and that in Cases II and IV the operation contributed only indirectly to the development of the fatal disease.

Should the rule of one well-known prostatectomist "not to include patients dying after six days" be accepted as the criterion, I might here claim no mortality. I feel, however, that it is only right to include all cases. This series shows that the operation itself is practically free from mortality, other than such accidents as might follow any operation.

Restoration of Voluntary Urination.—Even when the catheter had been used for years, these patients are now able to void urine naturally in all cases. In only two of the seventy-five cases is there residual urine of any consequence, in both of which about 300 cubic centimetres still remain after urina-

tion. Of the other cases the highest amount obtained now by catheter is about thirty cubic centimetres.

The obstruction may be said to have been completely removed in all cases but these two. In one of these the cystoscope shows a small transverse fold of mucous membrane in the median portion of the prostate, in the other a small rounded intra-urethral lobule is to be seen. In both of these cases greater care at the operation would probably have detected and removed these obstructions, so that it may justly be said that normal free urination can and should always be established after the operation. In a number of cases, cystitis and contracture of the bladder exist, and more or less frequent urination is the result. These cases can probably be cured by hydraulic dilatation. If an unusual frequency of micturition is present after the operation, the patient should not be discharged without an investigation being made to see whether the bladder is markedly contracted or not, and if it is, treatment should be instituted to enlarge its capacity.

Continence of Urine.—In some cases urine was voided at intervals, with no period of incontinence, immediately after the removal of the drainage-tubes on the second or third day. As a rule, there has been an incontinence for several days, and in two instances a weakness in the sphincters was manifest, when the bladder became full, for several months. One of these is now well, and the other has no incontinence at night. No case of continual incontinence has occurred among these seventy-five patients.

In only one case has anything like a stricture of the urethra developed after the operation. In this case the median portion of the prostate was removed, as shown in Fig. 9, and in so doing, a portion of the floor of the prostatic urethra was accidentally excised. His physician reports that he found a stricture which was easily dilatable. I have not personally observed any case of stricture following the operation, and feel that the reported presence of only one case shows that instrumentation is entirely unnecessary as a routine procedure after the operation.

Preservation of Sexual Powers.—I have endeavored to hear from every patient, so as to find out what effect the operation has had on his sexual puissance.

I will tabulate the replies of those who claim to have had normal sexual powers before the operation. Of these:

Four were under 50 years of age. Three have erections and normal coitus; one has impregnated his wife; one has no erections.

Six between 50 and 59 years. Erections present, 5; coitus successful, 4; erections feeble, 1.

Fifteen between 60 and 69 years. Erections present, 10; coitus successful, 6; coitus not attempted, 4; erections not present, 5.

Six between 70 and 79 years. Erections present, 4; erections not present, 2.

Those cases in which the sexual powers were not present before operation need not be considered. A glance at the tabulation above shows that in a large proportion of the cases the erections and sexual puissance have been maintained after the operation. There are, however, a certain number of cases in which erections have not yet reappeared.

What effect the preservation of the prostatic urethra, the verumontanum, and the ejaculatory ducts may have upon erections and ejaculations can be surmised by a comparison of these results with those of Albarran and of Murphy, who cut away these structures in their operations, and have reported an absence of erections or sexual puissance in nearly all cases after the operation.

Fistula.—The perineal fistula has usually healed within two weeks. In a few instances it has closed within eight days. In only two cases that I know of has it persisted. In one of these the prostatic tissue removed has been found to be carcinoma.

Of the four cases of recto-urethral fistula which I reported in my last paper, all have, I am happy to say, been cured by subsequent operation. After failing in several attempts at closure, I have finally adopted the plan of supplying supra-

pubic drainage before closing the rectal and urethral openings separately. In this way the purulent urine is diverted from the sutured urethra, which is thus given a rest, and heals promptly. The suprapubic cystotomy adds nothing to the gravity of the operation, and has changed the results obtained from constant failures to constant successes.

These fistulæ occurred in men whose vitality was very poor (one had diabetes); but I believe that at least two would not have occurred but for the placing of packing against the unprotected rectum.

In the last thirty-five cases in which the levator ani muscles have been reapproximated by a catgut suture, and care has been taken to have no gauze press upon the rectum, there has been no case of rectal break-down.

In closing, I will say that after about 200 operations on account of hypertrophied prostate, among which were eighty-five Bottini operations with six deaths, twenty suprapubic prostatectomies with three deaths, I have come to the conclusion that for most cases perineal prostatectomy is the safest and surest and quickest method of curing the patient. That whereas the Bottini method is the simplest and quickest for a certain limited number of cases, which can best be determined by the cystoscope, it is not so safe, and nothing like so uniformly sure of relieving the obstruction as the perineal enucleation. The suprapubic route may be used in certain large intravesical lobes.

I wish to state again my belief in the great advisability of a careful preliminary cystoscopic examination. In this way only have I been saved from several serious blunders.

The recognition of diverticula, incarcerated calculi, pedunculated prostatic outgrowths, and early carcinoma of the prostate cannot be made without the cystoscope, and an accurate mapping out of the prostatic enlargements is of great advantage in performing a perineal operation where careful preservation of important and non-obstructive structures is the aim of the operator.