On the treatment of certain cases of prostatic obstruction by a section of the gland / by Reginald Harrison.

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ON THE

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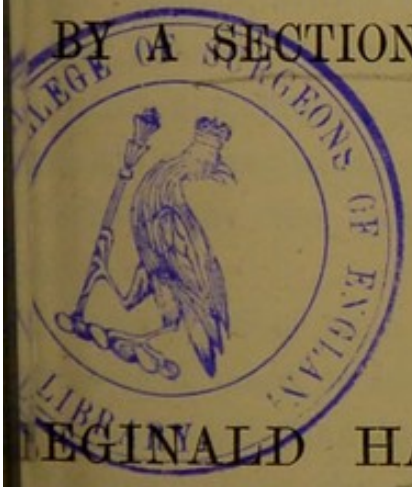
BY A SECTION OF THE GLAND.



BY

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ON THE TREATMENT OF CERTAIN CASES OF PROSTATIC OBSTRUCTION BY A SECTION OF THE GLAND.

By REGINALD HARRISON, F.R.C.S.,
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I WISH to refer to those cases of difficult micturition due to a large prostate which are not adequately relieved by the use of the catheter.

This class includes cases where there is unusual difficulty in introducing the catheter; where hæmorrhage almost constantly attends its use; where the withdrawal of the urine is followed by no sense of relief; and where the bladder, by the constant presence within it of pus and tenacious mucus, is converted into little else than a chronic abscess through which urine percolates. These, as well as some other forms of prostatic disease which might be included, are practically unrelieveable by the catheter, and speedily terminate in painful death.

For the relief of such conditions, various expedients for establishing a more or less permanent communication with the bladder, other than by the urethra, have been practised; viz., puncture above the pubes, by the rectum, and from the perineum, with the retention of a cannula for the discharge of the urine at these several points. Excellent in design as these proceedings are, they appear to fall short in one important respect, namely, in not directly dealing with the cause of the obstruction. Two of these measures are open to objection on the ground that the artificial canals are inconveniently placed for permanent vents, for it would seem desirable that the urethra should, as far as possible, be utilised, and the external opening for the escape of urine be dependent.

Fig. 1.
See page 5.

With the view of meeting the objections referred to, and at the same time of dealing with the cause of the obstruction, in a case the particulars of which have already been published,* I punctured the bladder through the large prostate, and retained a tube in this position by which all urine was passed under regulation for twelve weeks. During this time the patient was able to go about with no inconvenience, the urine being voided at will by turning a tap. This man, though now eighty-six years of age, remains well, and passes his urine naturally along the urethra. The operation has been followed by atrophy of the prostate, this change having been noted by myself, as well as by others who had the opportunity of examining the patient. This operation has since been repeated with good immediate effects, but I am not aware that any similar change in the prostate following it has been observed.

On further consideration of the various means that had previously been applied to the obstructing prostate, it appeared possible that some of them would permit of further adaptation for the purpose of directly dealing with it.

The practice introduced by Mercier of dividing the prostatic bar, by cutting instruments passed along the urethra, seemed to want precision in execution, which could alone render it safe as well as efficient. Imperfect in some respects as this operation appeared, I found, amongst other operators, Dr. Gouley, of New York, was practising it with good results.

* *British Medical Journal*, Dec. 24th, 1881, April 8th, 1882.

This is an instrument (Fig. 1) which was given to me when I was last in New York by Dr. Gouley, who had it made for the purpose of estimating the thickness and character of the prostatic bar, before proceeding to operate.

It seemed that by combining Cock's operation for opening the membranous urethra with Mercier's for dividing the prostatic bar in a somewhat modified form, as will presently be described, it would be possible to obtain precision with an increased freedom from risk.

Such an operation was suggested by the late Mr. Guthrie, but I cannot find that he ever tested it in practice. The want of anæsthetics probably interfered with the progress of this as well as of other departments of surgery. From some experience of division of the prostate from the perineum I have had in lithotomy, and other operations on the parts constituting the neck of the adult male bladder, it appeared to me that the means which had been adopted for rendering the section permanent, however made, were very inadequate.

Furthermore, I had been impressed with the advantage that followed the judicious employment of suitable bougies as dilators in cases where the prostate threatened to obstruct micturition.* Influenced by observations of this kind, I was led to attach considerable importance to the treatment immediately following section of the obstructing portion of the enlarged gland with the view of rendering the latter more permanent than had hitherto been attempted. Before describing the operation and after-treatment practised, I would mention two methods of examination which often furnish very valuable information.

The first is for the purpose of determining the degree of dilatation the bladder has undergone, and the rate at which it is proceeding. This is accurately obtained by the use of

* *The Prevention of Prostatic Obstruction.* Churchill. London, 1881.

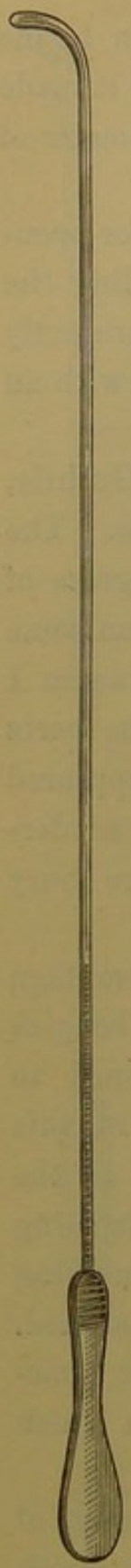


Fig. 2.

a long graduated sound (Fig. 2). If dilatation is proved to be progressive, in spite of the assistance rendered by regular catheterism, it may be taken as an indication of the necessity for further measures being adopted to remove the obstruction to micturition that the enlarging prostate occasions. Progressive dilatation of the bladder is not only a sure forerunner of atony or paralysis of the viscus, but is certain to be followed by dilatation and sacculation of the ureters and kidneys. The method employed for measuring the bladder is shewn in the figure (Plate A).

The second method of examination has for its object the determination of the thickness and shape of the prostatic bar. It consists in reversing the long sound, and introducing the index-finger of the opposite hand into the rectum, by depressing the prostate towards the bowel, as shewn in the figure (Plate B), an approximate estimate can be made of the form of the glandular bar. After some experience of different plans of measurement, I prefer this to any instrument, such as the prostatometer (Fig. 1) of Gouley, which has been mentioned.

It should be stated that the most formidable form of obstruction which the prostate affords, is that most amenable to division, where the gland grows not in lobulated masses, but by an upheaving of its floor, as shewn in the accompanying sketches. (Plate C).

Why this portion of the gland should assume this particular prominence is, I think, to be explained by the fact that here the prostate may grow under the hypertrophic influence without being

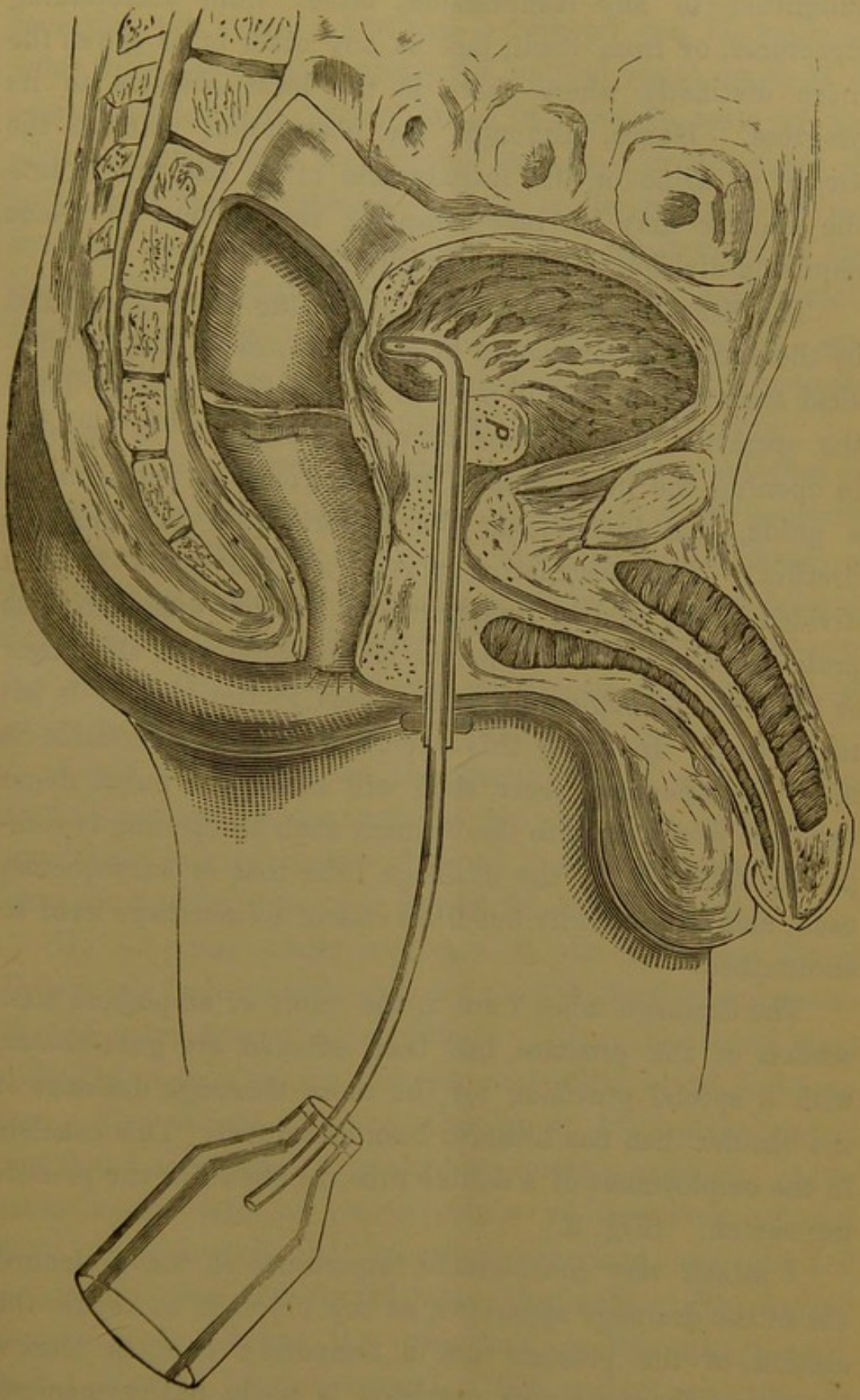


Fig. 3.

submitted to any compression, either from surrounding structures, or from itself, just as any other mass grows the more distinctly where there is the least obstacle to its progress. Hence, although the obstruction both to the escape of urine or the introduction of an instrument into the bladder may be very complete, the amount of tissue requiring division is not necessarily large.

The necessity for prostatotomy having been determined by the symptoms presented in each case, as well as by physical examination, I will proceed to describe more in detail the operation and after-treatment employed. It consists in opening the membranous urethra from the perineum on a guide, and introducing the finger within the prostatic urethra. The obstructing portion of the gland is then divided in the median line, partly by incision with a straight probe-pointed knife, and partly by divulsion with the finger or large-sized bougie until the access to the bladder is felt to be free. In doing this operation it is not desirable to make an opening larger than will admit the index finger from the perineum into the bladder, such an opening is completely filled up by the drainage tube that is subsequently used, and consequently but little risk of hæmorrhage need be entertained.

The drainage tubes I am in the habit of employing after section of the prostate has been effected are gum-elastic, with a special provision for the more thorough drainage of the bladder than has hitherto been attempted. This consists in the employment of a double tube, as shewn in the preceding sketch. (Fig. 3.)

I attach very considerable importance to the prolonged use of the drainage apparatus, as my object is to render the section of the prostate not a temporary one, as after a lithotomy where no such provision is made, but permanent. Hence I am in the habit of retaining these tubes for six,

eight, ten, or twelve weeks. If after such periods, on removing the tube, I find that a catheter can be made to enter the bladder easily along the natural route, or if, as it sometimes happens, urine forces its way in spite of the perineal tube along the natural passage, I regard these as indications that the object in view in the retention of the drainage tube has been obtained. The regular use of the bougie is continued until the perineal wound has soundly healed, a process which usually takes place rapidly, and leaves but little mark. As a precautionary measure, patients are enjoined to continue to use the bougie occasionally.

It will be observed that section of the bar is preceded in all instances by a careful digital exploration of the prostatic urethra, with the view of directly determining the nature of the obstruction and the direction of the incision to remove it. I would take this opportunity of acknowledging the value of Sir Henry Thompson's views relative to this method of examination, which is so much employed.

I will briefly narrate the particulars of a case illustrating not only the symptoms to which the operation is applicable, but the results obtained in other instances which have come under my notice during the last two years.

D. E. came under my care at the Liverpool Royal Infirmary, during 1883, with an atonied bladder and retention of urine from a large prostate. There had been great difficulty in passing the catheter, and much blood had been lost. The patient was very childish in his habits, and it was found impossible to make him retain a catheter. After three weeks' trial of various plans of treatment without avail, I performed the operation described, and divided a prostatic bar of considerable thickness. No further hœmorrhage followed the operation, cystitis disappeared, and the urine became normal. The patient was able to get up and go about in ten days, his urine being discharged

at will by turning the tap connected with the drainage apparatus. The drainage apparatus was used for eight weeks, when it was noticed that, in spite of the tube, a certain quantity of urine made its way along the urethra. The tube was then withdrawn, and the perineal wound rapidly closed. This patient has never had any further impediment to the natural escape of urine along the urethra. He has been frequently examined before the clinical class at the Royal Infirmary, and though the prostate remained large, there was no difficulty in micturating, or in passing the largest sized catheter into the bladder. He could retain urine for four hours, the bladder acquired its natural power of expulsion, and there was no residual urine. Six months after the operation, the patient had a paralytic seizure, from which he has not recovered, but it has not been found necessary to resort to catheterism. No more unfavourable case could have been submitted to operation, but the results obtained more than justified the course that was adopted.

In some instances, where stone in the bladder has been secondary to the formation of a prostatic bar and the incomplete emptying of the bladder, lithotomy has been selected as affording opportunity, not only for the removal of the stone, but the bar which led to its formation. In a case of recurring stone, this operation has been followed by the continued excretion of urine of an acid re-action, when after previous lithotrities the urine was invariably alkaline.

In offering an explanation of the results obtained, I think we have it, not only in the means which are adopted to render the section of the prostate permanent, but further, I believe something is due to the introduction into the prostate of no inconsiderable quantity of shrinking or cicatricial tissue.

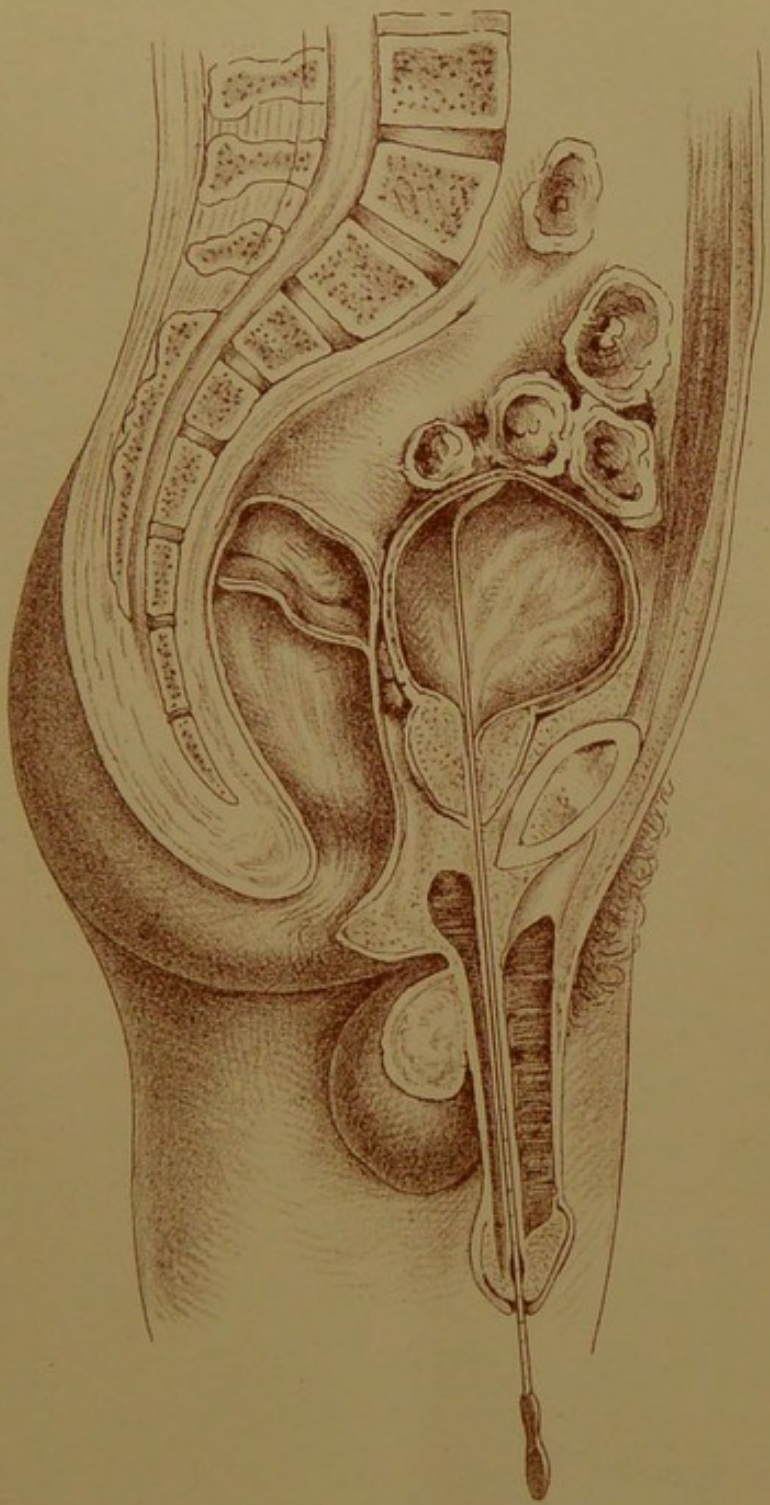


PLATE A.

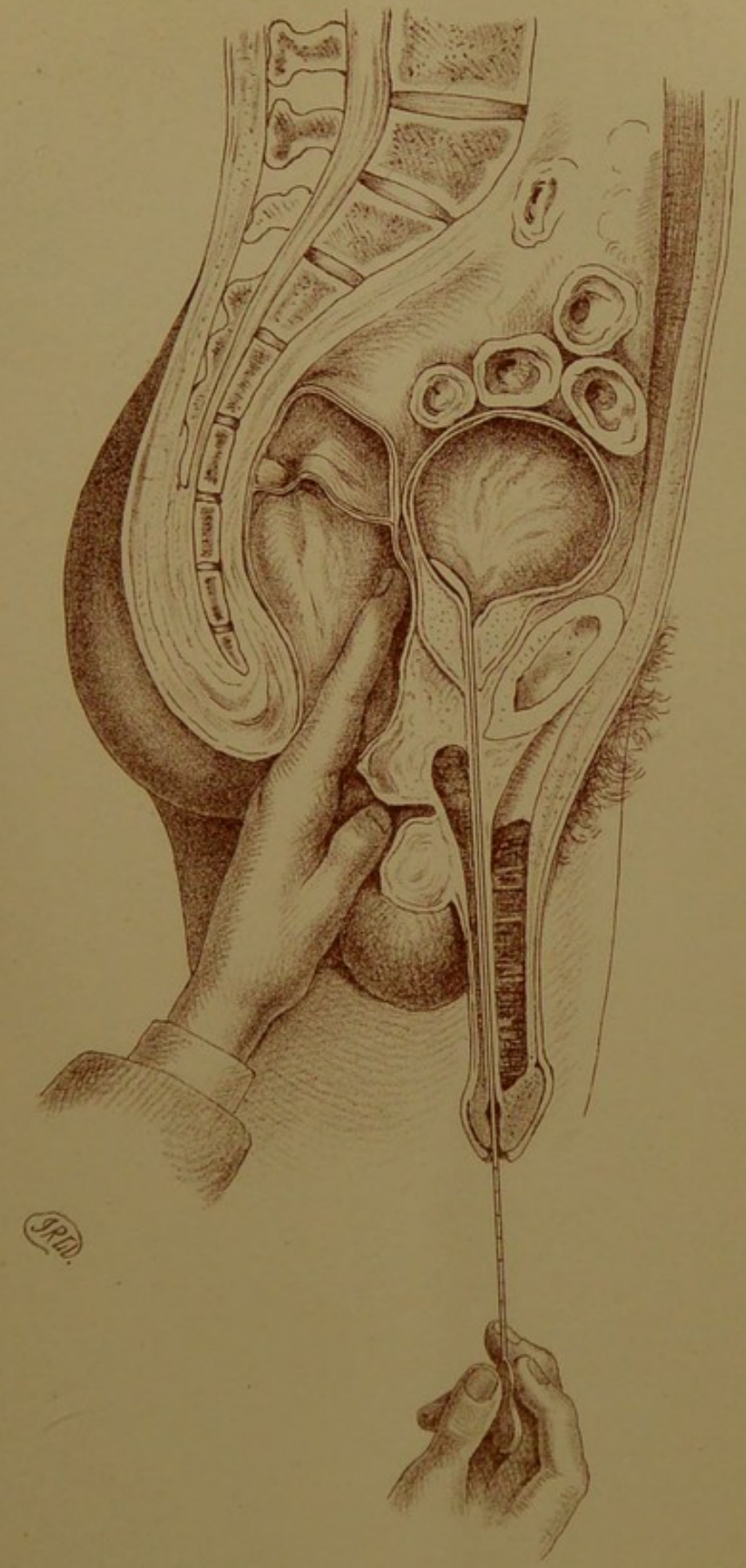
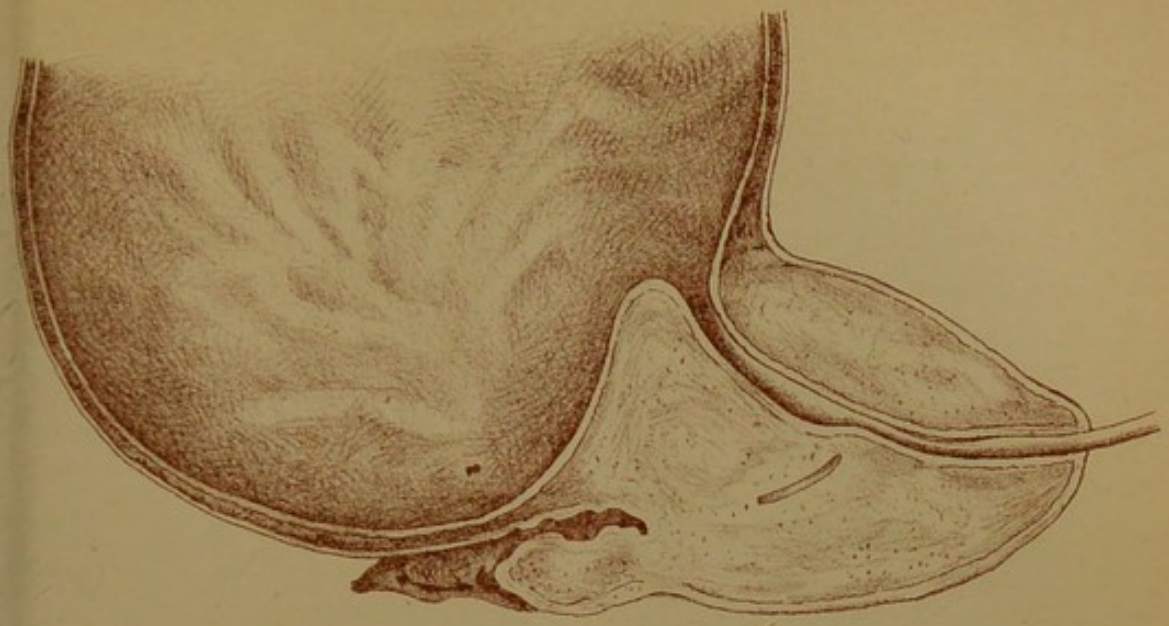


PLATE B.



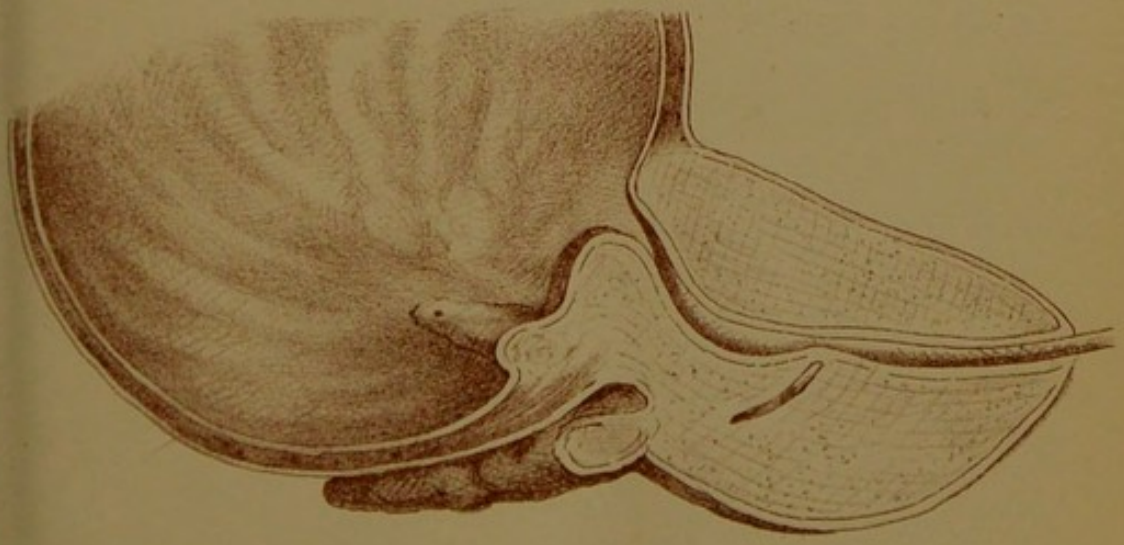


PLATE C.