Stated Meeting, November 5, 1894.

The President, DR. WILLIAM HUNT, in the Chair.

LIGATURE OF THE SPERMATIC CORD IN THE TREATMENT OF HYPERTROPHY OF THE PROSTATE GLAND.

DR. J. EWING MEARS, after some remarks upon the anatomy and physiology of the male generative apparatus, and upon the etiology of prostatic hypertrophy, said that ligature of the spermatic cord appeared to him to be both philosophic and physiologic as a treatment for such hypertrophy. Without doubt castration, as suggested by Dr. J. William White, would prove effectual in the production of atrophy, and reports of cases have appeared in recent current surgical literature in which very positive relief was afforded by the operation. It is an operation, however, to which patients will naturally refuse to submit unless in the very last stages of disease of the bladder resulting from prostatic obstruction.

During the last year he had examined patients on whom he had performed subcutaneous ligature of the vessels of the cord for varicocele, and in all of them he had observed more or less atrophy of the testes, although the vas deferens was not included in the ligature. He believed that if the vas deferens should be included in the ligature applied to the vessels of the spermatic cord, it would produce atrophy of the testes, and, since the shrinking of the testicles would be gradual, would not disturb the mental condition of a patient so much as the operative removal of those glands would.

LITHOTOMY AFTER PARTIALLY SUCCESSFUL CLOSURE OF EXSTROPHY OF THE BLADDER; SUBSEQUENT CONSTRUCTION OF A PERINEAL URETHRA FROM SCROTAL TISSUE.

DR. JOHN B. ROBERTS reported a case of exstrophy of the bladder in a child eight years of age. In this case, as the result of an operation some years earlier, the posterior wall of the bladder did not protrude, but formed a shallow cup at the base of a rudimentary

penis. The urine ran from the bladder over the penis and scrotum, and also escaped from linear sinuses along the top and sides of the thickened tissue which closed the upper portion of the cleft in the bladder.

As a first step in an operation for the relief of this condition he endeavored to produce a perineal fistula by thrusting a curved needle from the base of the bladder through the perineum, behind the scrotum, and conducting a drain through the opening so made. The tube was increased in size at various intervals until at the end of two months there was a canal which would contain a rubber urethral bougie of moderate size.

He then etherized the patient a second time, and made a circular denudation around the edge of the open bladder. The rudimentary penis, consisting of the spongy body, the cleft glans, and cleft prepuce, was entirely removed. Cylindrical masses on each side of the opening in the bladder, which appeared to be the representatives of the cavernous bodies, were also dissected away. A piece of soft rubber catheter was then introduced through the perineal opening established by the first operation, and its end allowed to reach the floor of the bladder. The purpose of this procedure was to secure downward drainage of the urine after the edges of the bladder were brought together.

Seven deep sutures were next inserted in a manner to bring the denuded edges of the bladder-wall into apposition in a vertical direction. The wound was then sealed with iodoform and collodion.

The perineal tube, however, soon became blocked with mucus and pus, which was continually flowing from the irritated mucous membrane of the bladder, and was not satisfactory as a drain. He finally passed a drainage-tube from one of the upper sinuses directly through the bladder and out of the perineal opening, in order to prevent the sutures in the middle line from yielding. These middle sutures, however, finally gave way, and when the patient passed from observation there was a large opening in the middle of the attempted closure. Some union had, however, been obtained. The perineal opening showed a marked tendency to close.

He did not see the patient again until October, 1894, sixteen months later. At this time the perineal opening had entirely closed, and its scar was inconspicuous, but the exstrophy of the bladder was completely covered by the new anterior wall. At about the middle of this wall, which had been constructed in the manner described,

was a small opening of sufficient size to admit the end of a large probe. At the upper and right-hand side of the portion of the wall which had been constructed in infancy was a linear sinus about an inch in length, which allowed the urine to escape. There was a little oozing of urine from the small central fistula, but the major portion escaped from the sinus at the upper right-hand border.

The child's general condition was then poor, the urine was offensive, and a sound detected the presence of calculi in the bladder. By enlarging the opening in the middle of the bladder-wall in front, ten calculi, varying from five-sixteenths to five-eighths of an inch in diameter, were removed. Their combined weight while moist was 195 grains.

It seemed to him that the establishment of a perineal urethra lined with skin would afford efficient drainage to the new bladder, and would remain patulous. He therefore determined to cut a channel between the perineum and the floor of the bladder, and turn in flaps of skin taken from the scrotum. As a first step he incised the scrotum in the middle line and removed both testicles. He then made a puncture downward from the base of the bladder to this scrotal incision. This permitted him to utilize the scrotal tissue for lining the new channel. By two horizontal incisions on each side of the opening he obtained strips of scrotal skin and superficial fascia half an inch wide and an inch and a half long. To the inner end of these ligatures were fastened and the threads carried upward through the new urethra. The cutaneous flaps were then drawn up along the canal into the bladder, and were then sutured on each side of the incision in the middle line of the anterior bladder wall. This manœuvre lined both sides of the perineal opening with skin from the perineum to the anterior bladder wall. A drainage-tube was inserted to keep the channel patulous, and the bladder and tube were washed out.

No attempt was made to close the opening in the middle line or that at the upper and right-hand side. He deemed it better to leave these open for convenience in flushing the foul bladder cavity. It was his intention to close these at a later period. The edges of the wound in the perineum left by the plastic operation were brought together with sutures, and healed promptly. Antiseptic solutions were used for washing out the bladder and tube, and the patient did well for several days. His temperature was not high, and the drainage through the perineal tubes was quite satisfactory, though not always

perfect. At the end of three or four days he began to lose his appetite and vomited occasionally. He died on the fifth day, apparently from exhaustion.

An autopsy showed disease of the left kidney, which was riddled with small abscesses. The ureter on this side was double, and showed great enlargement of the calibre and thickening of the walls. The pelvis of the kidney and the double ureter were filled with pus. Just before the two ureters of this kidney reached the bladder they united and opened into the bladder by a single orifice. The right kidney and ureter appeared to be normal.

SECRETION OF URINE AFTER ABDOMINAL SECTION.

DR. CHARLES B. PENROSE presented the statistics from 111 cases in which he had opened the abdominal cavity for various causes, giving the amount of urine passed in each case during the first three days after operation. In all of the cases the kidneys seemed to be functionally normal before the operation.

The patient was generally operated on at 11 A.M. The last meal was given the night before. A small amount of water was given in case of thirst on the morning of the operation. Small increasing quantities of hot water were given first twenty-four hours after the operation; and food was first administered forty-eight hours after the operation. The women were also thoroughly purged with saline purgatives during the twenty-four hours preceding the operation.

The minimum amount of urine passed during the first twenty-four hours was four ounces. This was in a case of unilateral oöphorectomy. The maximum amount was twenty-two ounces, being in a case of ventral hernia. The average amount for all the cases was for first twenty-four hours, 13.4; for second twenty-four hours, 14.6; and third twenty-four hours, 19.6.

The patients all recovered easily, never showed any symptoms of ureteral obstruction, or of any renal disturbance.

DR. JOHN B. DEAVER remarked that if these same observations had been made with reference to other surgical operations the result would probably be the same. He believed that they were largely due to the anæsthetic. He was prejudiced against ether in protracted operations on account of its effect upon the kidneys. He had seen congestion of the kidney with blood in the urine time and time again immediately following operations where ether had been the anæsthetic used.

DR. JOSEPH HEARN thought that in prolonged operations of any kind there is more or less diminution in the amount of urine secreted during the first forty-eight hours. He attributed it to the lessened vitality of the patient. During the operation the pulse becomes feeble, and there is diminished supply of blood to the kidney and a lessened secretion of urine.

DR. ORVILLE HORWITZ said that in the last thirty-five or forty operations for stricture in the membranous portion of the urethra he had had the amount of urine passed noted; the result is similar to that reported by Dr. Penrose. In some cases the quantity in twenty-four hours has been as low as six or eight ounces.

DR. JOHN B. ROBERTS remarked upon the practice of keeping patients after abdominal operations from drinking water. It seemed to him that gynæcologists, and perhaps surgeons, had run to the extreme on the theoretical assumption that water by the mouth encourages suppuration in the belly after an imperfectly aseptic operation. It seemed to him that the practice of keeping the patient twenty-four or more hours without water bordered closely on cruel surgery. In his abdominal cases he always permitted the reasonable use of water, and had never had occasion to regret it. He did not see why they should not be given water, both because they like it and as a therapeutic measure, particularly if the kidneys have a tendency to be inactive. It is needed to fill up the depleted vessels after the bleeding of operation. The use of water does more good in favoring the action of the kidneys than it does harm in interfering with the wound.

DR. RICHARD H. HARTE said that the thirst after operation is one of the most unfortunate things connected with abdominal operations. It would be unwise to give the patient all the water that he would drink, for, in the majority of cases, he would take more than was good for him, and in a short time the stomach would become so irritable as to reject everything. Four to six ounces of water thrown into the rectum will relieve thirst as readily as if given by the mouth.

DR. ROBERTS did not mean it to be understood that as soon as the patient comes out of the ether he allowed large quantities of water. He did not at first give them all that they would drink, but did not restrict it much. A moderate amount of water, say three or four ounces, at intervals, does no harm. He condemned the practice that keeps the patient without water for twenty-four or forty-eight hours. If the operation has been a bloody one, water is required to fill up the vessels. It is not only after an abdominal operation that

the patient is thirsty, but the same occurs after any operation. He had used the rectum, and that is a good way. He claimed that the tissues need water, and that the patients are no worse, and are more comfortable, if permitted the use of water. Practically, he did not see that abdominal operations were different from other operations in their general management. Aseptic wounds, common-sense treatment, and comparative freedom from opium is a good line to follow in all surgery.

DR. THOMAS S. K. MORTON spoke in favor of giving water after abdominal section. Two years before he began to give water freely by the mouth as well as by the rectum, which latter he had been doing for some time. Six ounces of water, with or without a little brandy or fluid extract of valerian, by the rectum every three hours, is usually promptly absorbed. As soon as the ether-vomiting subsides he begins by giving one ounce of water by the mouth every hour. If this is well borne and the thirst is urgent, the interval may be shortened half an hour or to fifteen minutes. Since adopting this plan patients had been far happier than under the old method, and he had no reason to regret it. After twenty-four hours the patient, as a rule, has as much water as is desired.

DR. PENROSE did not intend to claim that there was anything in the small amount of urine passed peculiar to this operation of abdominal section. He thought that under the same conditions of shock, prolonged anæsthesia, starvation, restraint from drink, and preparation by watery purgatives, the amount of urine would be the same in other operations.

With regard to the use of water after abdominal section he had not found that the patients suffer so much as some of the gentlemen have mentioned. He thought that cœliotomy did not cause greater thirst than did other operations. The only reasons that he knew of for restricting the quantity of fluid were to prevent vomiting, and thus favor quietude of the abdominal incision, and, second, because under this plan the peritoneum perhaps absorbed more rapidly whatever may be in it or thrown out from the peritoneal surface after operation. Of course, this thirst does not prevent the patient from developing septic inflammation if the operation has been a dirty one. If there is any likelihood that any dirt has been left, it is desirable that the fluid should be absorbed as quickly as possible, and he thought that the peritoneum absorbed more rapidly if the tissues were hungry for water.