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laboratory.

DR. HIRAM N. VINEBERG, reported a case of

TRAUMATIC INJURY TO RIGHT URETER DURING DELIVERY. URETERO-VAGINAL FISTULA. HYDROURETER SIMULATING ABDOMINAL EXUDATE. REIMPLANTATION OF URETER.

"Traumatic injuries to the ureter during childbirth, are not often met with, in recent times. The writer has seen only one other case during the past fifteen years. In that instance, the medical attendant had applied high forceps which caused a deep tear of the cervix, extending into the base of the left broad ligament. The patient began to show abdominal distention soon after delivery and was seen by a prominent gynecologist, in consultation, on the second and third days postpartum, who made rather light of the condition.

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When seen by me on the fourth day, the signs and symptoms of ascending peritonitis were unmistakable. The medical attendant, a very intelligent man, said there was a feature of the case he could not understand and that was, on catheterizing the patient, shortly after delivery, he noted a few drops of blood come away toward the end.

"It was very difficult to examine the patient, who was very stout, but on passing my middle and index fingers into the rent in the base of the broad ligament, there was a gush of very fetid urine. The cause of the ascending peritonitis could then easily be explained, there had been infiltration into the pelvic peritoneum from the injured ureter, setting up a peritonitis which spread rapidly and ended fatally on the sixth or seventh day postpartum.

"The case, which I am about to report, was that of a woman thirty-five years of age, who was admitted to my service, Mt. Sinai Hospital, October 26, 1916. She was married two and one-half years, had a miscarriage at ten weeks, eighteen months ago, and had been delivered of a full-term child the middle of June of this year. The labor had been in progress forty-eight hours when forceps were applied and a dead child extracted. There was an extensive laceration of the perineum, which was not sutured at the time.

"On the first day postpartum, the patient began to complain of pain in the right lower quadrant of the abdomen, radiating to the thigh. The abdomen gradually became distended and the pains grew very severe. She was admitted into St. Mary's Hospital, Brooklyn, on the fifth day postpartum and, at this time, the patient said she began to have a profuse watery discharge from the vagina. She stated further, that with this discharge, the swelling in the right side of the abdomen, would seem to disappear. No stress being laid upon this statement, it escaped my attention when the history of the case was read to me and, consequently, a wrong diagnosis was made, as will appear later. The perineum was repaired and cervix amputated, in St. Mary's Hospital, on the seventh day postpartum, and the patient was discharged as, apparently, cured, ten days later.

"About nine weeks previous to admission, the pain in the abdomen and profuse vaginal discharge returned and persisted for about three weeks. Two weeks later, she began to complain of bearing-down pain with frequency of micturition, when up and about. The vaginal discharge had entirely subsided. Five days prior to admission, the pain in the right of the abdomen, returned. It radiated to the thigh and back. There had been no nausea or vomiting, no chills or fever.

"On examination, we found the vaginal vault presenting an irregular scar, the vaginal portion of the cervix very much shortened, as if it had been amputated, the uterus was of normal size and position. In the right side of the abdomen, was a hard smooth mass extending from just below the rib border to Poupart's ligament. It seemed superficial as if intramural, was moderately tender, and entirely fixed. Most of the previous history was not obtained until later, after close questioning, and the chief points, in the history,

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at the time of the first examination, were a difficult labor, followed by pain and a swelling in the abdomen, which persisted up to the present time. The natural inference was that the patient had a postpartum infection which resulted in a cellulitis, extending between the abdominal wall and parietal peritoneum, a condition not infrequently met with. It was also thought that deep indefinite fluctuation could be detected, at one point. Accordingly, a short incision was made over the most prominent part of the mass and after the skin and fat had been cut, an aspirating needle was thrust into the mass, in various directions but no pus was obtained. The incision was then lightly packed with gauze, in the hope that the exudate would break down, ultimately, and discharge through it.

"Four days later, the patient drew our attention to the fact that the watery vaginal discharge had returned and we then noted that the abdominal swelling had considerably decreased in size. A careful examination was now made of the vaginal canal and a very small slit-like opening was detected, in the right lateral wall, about 1 inch from the introitus. This opening was surrounded by a small ring of granulation tissue. It admitted a fine probe, for the distance of about 2½ inches. On dilating it with dressing forceps, a small amount of urine and pus escaped. The condition was now made clear, we had to do with a ureterovaginal fistula, which became constricted from time to time, causing a distention of the ureter, which, in time, gave rise to the apparent abdominal exudate.

"A cystopic examination showed the left ureteral orifice normal and emitting, regularly, jets of urine, the right ureteral orifice lying dead and the ureteral catheter was arrested at 1 cm. from the bladder. The bladder urine was practically normal. About 50 c.c. of urine was collected from the fistula. On examination, it showed blood cells, evidently from the tract of the fistula, a marked trace of albumin, and urea 0.2 per cent.

"The chief complaint of the patient now, was the escape of urine from the vagina. I decided, therefore, to open the abdomen, palpate the left kidney and, if found apparently normal, to reimplant the left ureter into the bladder. Accordingly, this was done November 14. On opening the abdomen, the left ureter was found dilated to the size of the thumb, as high up as it was visible, which was a little distance beyond the brim, but as the palpation of the kidney detected no appreciable enlargement, a reimplantation of the ureter, into the bladder was carried out. The ureter was mobilized and divided, near its entrance into the vagina. It was then carried through a slit, made at the lower part of the broad ligament, and implanted into the right lower quadrant of the bladder. For the first three or four days following the operation, the urine, as was to have been expected, was very bloody. After this it gradually became clear and the patient made an uninterrupted recovery, with primary union of the abdominal wound. She was discharged from the hospital December 3."

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DISCUSSION.

Dr. Edwin B. Cragin.—"I have had two or three of these cases but have not had an opportunity to cystoscope them at a considerable period afterward. Symptomatically they have been cured. The last one upon whom I attempted to implant the ureter into the bladder had a pelvis so deep and an abdominal wall so fleshy that I finally decided, especially in view of the numerous reports of these artificial implantations not being permanently satisfactory, to remove the kidney instead. This was done with a complete cure of her ureteral leakage through the vagina from which she had suffered for two years following an extensive vaginal hysterectomy by myself for carcinoma of the body of the uterus chosen in preference to an abdominal hysterectomy on account of the large fleshy abdomen."

Dr. Henry D. Furniss.—"This afternoon I had the opportunity of examining a patient on whom I did an implantation eighteen months ago for stricture of the lower end of the ureter and while the opening was visible, after giving the patient indigo carmin intravenously the normal side eliminated the dye in four minutes and in fifteen minutes there was no elimination from the implanted side; so even though it may be draining a certain amount of urine (I am not sure that it even does that) the function has been very much decreased in that time."

Dr. Vineberg, in closing the discussion, said: "I have nothing to add except that I was anxious to hear from other observers as to whether or not they had seen any cases in which the implanted ureter had continued to functionate. Until lately I was always of the impression that it did well. I know of one case at the hospital, in the hands of another operator, however, in which both ureters had been cut and on leaving the hospital the patient was all right. We have tried to trace her, but have not succeeded. If I do I will be glad to report the case to the Society."

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