In diseases of the liver, the value of the test in deciding whether the bile passages are completely or partly closed is limited by the lack of a satisfactory test for bile in the duodenal juice.

The duodenal tube is a convenient and comfortable means of obtaining stomach contents; and more reliable than the usual stomach tube for aspirating small amounts of clear fasting contents.

In treatment, the duodenal tube of Einhorn was very useful in a selected group of cases; it was very useful in cases of persistent vomiting of nervous and toxic type. Here an unusually long tube is desirable to prevent regurgitation into the stomach. It was also useful in certain severe cases of malnutrition, with anorexia and atonic stomach.

It was useful in a limited group of cases of peptic ulcer. It was used only in cases without organic obstruction and in those which resisted ordinary medical treatment. It was used several times to improve the patient's condition before operation in ulcer, also in two cases of cancer of the esophagus (stomach feeding).

Almost every case was improved by duodenal feeding, and in a considerable number the symptoms stopped.

It is superior to rectal feeding, as patients usually keep their weight or gain, and keep their balance of nitrogen. A reservoir and the Murphy drop-method is preferred to a syringe for introducing food.

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Clinical Department.

CHRONIC INVERSION OF THE UTERUS—
REPORT OF A CASE.*

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Mrs. S., 23 years old, was delivered on March 23, 1915, by high forceps, the labor having been moderately hard. Some sewing was necessary to repair the perineum and nothing abnormal was noticed. A few hours after the delivery, there was a postpartum hemorrhage. The convalescence was then apparently normal. When the baby was two to three months old, there was some flowing, which was considered a normal menstrual period. A month later came a period with excessive flowing, on September 2 a very slight flow, and on September 12 another normal period, and on September 16 more excessive flowing.

On September 17 she was sent to me by Dr. Norton, to whom she had gone, having discovered an abnormal mass in the vagina. Dr. Norton recognized the condition, and tried without success to replace the uterus. The woman was then referred to me for operation.

Examination. The patient was a healthy-looking young woman. Examination was negative except for the pelvic organs. Inside the vagina was a mass the size of two thumbs side by side, covered with mucous membrane and easily bleeding. This mass protruded from inside the cervix, which made a loose ring about it. By bimanual examination no uterine fundus could be felt. The diagnosis of inversion of the uterus, therefore, seemed clear. The entire body of the uterus down to the region of the internal os had inverted through the cervix. On the next day, under ether, an attempt, which

* Read before the Obstetrical Society of Boston, Jan. 25, 1916.

failed, was made to reduce the inversion. The cervix offered no obstruction. The difficulty came from the uterus itself, its walls being too thick to permit of forcing it back through itself. A laparotomy was then done. There was no uterine body to be seen. It had inverted through itself and disappeared into the vagina. Into the depression the index finger passed down to the second joint, the cavity being of the right size to admit the finger. Double hooks were passed down into the cavity to the inverted fundus and unsuccessful attempts were made to pull it back into the abdomen. Attempts to get it back into position by pushing from below as well as pulling from above, also failed. The posterior wall of the inverted uterus was then divided by scissors. This opened the posterior cul-de-sac of the vagina. With the finger through this opening and a clamp on the wall of the inverted uterus, the fundus was turned back into position. The incision in the posterior wall of the uterus was then closed with two rows of catgut sutures, the first row being of chromic catgut with the knot inside the uterine cavity, the second one of chromic catgut pulling the peritoneum over the first row. The very lowest portion of the uterus was not sutured, leaving room for a wick down into the vagina. The abdominal wall was closed tight in layers.

During the first few days of convalescence, there was some increase in temperature, apparently due to congestion of the breasts, as at entrance into the hospital nursing had been suddenly stopped. The wick in the vagina was taken out in forty-eight hours. There followed a small amount of discharge for a few days. On October 2, when she left the hospital, the uterus was forward, movable, and the external os was perhaps a little large. She was seen again in December. She had had two normal periods. The uterus was found forward and movable.

In 1907, Peterson (*Surgery, Gynecology and Obstetrics*, 1907) covered the literature of chronic inversion of the uterus and published his statistics. It had been my desire to bring these statistics to date, but, after reading the reports of cases available, it seemed to me that this would be of very little value, inasmuch as no one man has had sufficient personal experience in this condition to speak of different techniques authoritatively. Each operator favors the technic used in his case, and reports the disadvantages of other methods of treatment. It, therefore, comes down to the personal preferences of the operator between vaginal and abdominal work. The surgeon who is accustomed to vaginal work will deal with his cases through the vagina, and he who prefers to go in from above will deal with his cases by a laparotomy. I doubt whether the difference in the method of approach is of much real importance, and agree with Peterson, from whom I quote, "Today any competent surgeon ought to be able to reduce the inverted uterus successfully by either way."

There are three methods of dealing with chronic inversion of the uterus: replacing the inverted uterus without operation; vaginal operative treatment; and abdominal operative treatment. Attempts to replace the inversion

without operation should always be made. They must be gentle and are rarely successful. Kronhaus, in an Inaugural Dissertation, 1911, reports a case where attempts resulted in tearing the vaginal wall so extensively that the bladder wall was exposed. He mentions a second case, where a vaginal hysterectomy was considered necessary, because the cervix had been so much traumatized.

There are several types of vaginal operation, according to the various sites of the incision. The principle in all is to divide the tissues sufficiently wide to permit replacing the fundus in position within the abdominal cavity. The incision is then sutured, and ordinarily the posterior cul-de-sac is drained. The vaginal operation may be made difficult by the presence of adhesions, which are hard to recognize from below. In a case by Gross (*Zentralb. f. Gynaek.*, 1907, vol. 31, p. 1433), reduction by vaginal incision was impossible because of the adhesions, and a laparotomy was necessary. After replacing the uterus by a vaginal operation, the body passed so high into the abdomen that Beckman (*Zentralb. f. Gynaek.*, 1914, vol. 38, p. 649) experienced great difficulty in placing the sutures. The question of infection plays a very important rôle in the consideration of these cases, for the uterus has been exposed so long that its lining membrane is usually infected.

Replacing it in the abdominal cavity may carry infection with it and result in a localized collection of pus or a peritonitis. In a number of cases it has been necessary to open secondarily the posterior cul-de-sac to allow the discharge of pus.

There is not much to be said in detail of the approach through the abdomen. By it one can see more distinctly the conditions which he is treating. The dangers of sepsis are equally as great as by the vaginal method, and the question of drainage is vital. It is to a laparotomy that many surgeons have turned after having experienced insurmountable difficulties by the vaginal approach.

The body of the uterus may have been exposed so long that it has undergone a microscopical change. Lemaire (*Bull. Soc. d'Obst. de Paris*, 1911, vol. xiv, p. 470) reports a case where the uterus had been down for eleven months. Its wall was so thick, hard, and sclerotic that, even after incision of the vagina, reposition was impossible. He, therefore, did a hysterectomy. Barboni (*Surgery, Gynecology and Obstetrics*, 1906, vol. iv, p. 125) mentions one where the inversion resulted in a fatty degeneration of the uterine wall. He did a hysterectomy.

The prognosis for future pregnancies appears to be poor. The mucous membrane of the inverted uterus seems to have been exposed so long to abnormal conditions that it has lost its normal functions. A few cases of pregnancies following chronic inversion are reported. Neugebauer

(*Zentralb. f. Gynaek.*, 1913, vol. xxxxi, p. 529) has collected eleven cases. There seemed to be no great difficulty with the birth of the child, Neugebauer's own case having a spontaneous delivery, but the delivery of the placenta gave difficulty, manual extraction being necessary in a few. Each of these cases had been operated upon by some method. In each the uterine wall had been rather extensively incised and sutured. In the presence of this scar each case was delivered without accident by vagina. This is interesting. It would seem to me that the best present-day obstetricians would prefer an abdominal Caesarean section before the advent of labor.

PREGNANCY AND LABOR FOLLOWING RESECTION OF OVARY.

By FREDERICK W. JOHNSON, M.D., F.A.C.S., BOSTON.

I REPORT this case to encourage those who do resections, where there is a chance of saving even a little healthy ovarian tissue.

The patient entered the Carney Hospital Dec. 11, 1913 (Case No. 1897) for the relief of backache and pain in both ovarian regions.

She was 24 years of age, married five years, and had had two children, the last one having been born two years previous to entering. The following symptoms date from the last confinement (2 years' duration): Irregular menstruation (once during this period went four months without menstruating), diminution in amount of flow and number of days, dysmenorrhea, profuse leucorrhea, burning and scalding during micturition. Gonococci not found. Last unwell, Nov. 23, 1913. Appendix removed five years before.

Diagnosis. Cystic left ovary. Ovarian cyst (right). December 13, 1913, the uterus was curetted. On opening the abdomen there were found chronic salpingitis of the distal half of each tube, an ovarian cyst of the right ovary the size of a hen's egg, a cystic left ovary, and the cecum adherent to the scar of the previous appendix operation. The ovarian cyst and eight-tenths of the left ovary were removed and the uterus suspended.

Pathologist's Report. Cystic ovary, dermoid cyst of ovary, and moderate hyperplasia of uterine mucosa.

Menstruation did not occur for three months after the operation. Was irregular (going over) until February 18, 1915 (2 years and 2 months). Flowed one day in March and April, 1915.

April 22, 1915, I found the uterus enlarged, both breasts enlarged and containing fluid and areolae darkened.

There were increased frequency of micturition, morning sickness, increased vaginal discharge and violet coloration of the introitus vaginae. She was "quite sick with fainting spells the first three months, but from then on was quite well."

November 26, 1915, she delivered herself of a nine-pound girl. Dr. J. S. H. Leard, who attended her, reported to me that the labor and convalescence were normal.

New Instrument.

A TABLE FOR THE REDUCTION OF DISLOCATIONS OF THE HIP AND OPERATIVE TREATMENT OF THE FEMUR AND HIP JOINT.*

By HENRY J. FITZSIMMONS, M.D., BOSTON.

THE following illustrations and specifications are intended to place before the orthopedic surgeon a mechanical aid to more efficient work. In a previous paper the writer described a table designed to be used in the reduction of difficult congenitally dislocated hips. The table, after a year's use, showed that the principles upon which it was built were sound; but that certain of the mechanical details were faulty. The present table has been designed after study of the failures and difficulty of the past, and now has been used sufficiently to justify this report.

Motion and the proper amount of force, directed as desired and when desired, are absolutely essential to the permanent success of any form of mechanical help in the reduction of congenitally dislocated hips. The pelvis must be held absolutely, and the mechanics for doing so must be so arranged as not to injure the skin or soft parts. It is the author's belief that this has been accomplished, therefore the following description is respectfully submitted.

The table is made of standard gauge iron pipe, and is 24 in. wide, 32 in. high, and 48 in. long. The shoulder and head-rest 1 (Fig. I) is made of sheet steel and is adjustable upon the top bars of the table Tr. It is shaped to fit the tapering of the lower thorax and to prevent incorporation in the upper portion of the plaster spica, which is placed to maintain the reduced hips after reduction. 3, The metal plates, which were modeled to fit accurately over the anterior superior spines and the iliac crests, are adjustable in all directions by means of the universal joint C, and the swing connection at D. The uprights E and E' are carried upon the firm T, which is adjustable through its sliding possibilities upon the lower rail, Lr., thus accommodating to any length of body and permitting a more definite downward or sideways hold on the iliac bones. The sacral rest G is a plate upon which rests an individually fitted plate, modeled for each case, and which should include the posterior iliac spines. This is fitted loosely to and upon the firm T', which is made of tubing, carrying a worm, which gives adjustability in the perpendicular plane. This T' is adjustable on the long diameter by its sliding possibility upon the lower bars of the table. This bar T' also carries the trochanteric push H, which is adjustable through the sliding joint J and the ball and socket joint K. This adaptability permits the cap L to be placed beneath the trochanter and firm constant pressure exerted by means of the screw and worm at M, in any direction. The perineal posts N of two bars, fitted

* Demonstrated upon two cases before the Clinical Congress of Surgeons of North America, October 28, 1915, Children's Hospital, Boston, Mass.

Demonstrated before the Interurban Orthopedic Club, December 31, 1915, Children's Hospital, Boston, Mass.