

In the other case the ovary was resting apparently very comfortably in its new position, but it was removed and submitted to Professor Ewing of Cornell for examination. He reported it normal except for a slight hyperplasia in the capsule, which doubtless existed before the original operation. This patient still has pain and is of a highly neurasthenic type.

It would seem that this operation has been given a fair trial and, from a study of the sixty cases of Barrows and myself, that the operation has been proved to be a satisfactory one to relieve the distressing condition for which it was devised. If it is done in proper cases it certainly seems to be devoid of any unpleasant sequelæ and does not interfere with pregnancy, as Barrow's two cases following the double operation prove.

SUMMARY.

In conclusion, I would advocate the following summary of the status of the subject.

1. Many cases of prolapse of the ovary are unaccompanied with symptoms. In these cases the ovary is probably not inflamed or adherent and has ample room for movement.

2. Many cases of prolapse of the ovary are accompanied with characteristic symptoms and are only to be cured by elevating the ovary out of danger of irritation and traumatism.

3. Failure to recognize the accompanying prolapse of the ovaries with a retrodisplaced uterus, and to elevate them, is often the cause of an unsatisfactory result following an operation for retroversion.

4. Operations to elevate the ovary which depend on shortening the infundibulopelvic or the ovarian ligaments are always prone to a recurrence to the former conditions, should the same etiologic factors be again present.

5. Any operation which throws the infundibulopelvic ligament into a fold by doubling it is open to the criticism that there is danger of causing an obstruction to the circulation in the ovarian veins and thus increasing an already existing passive congestion of the pampiniform plexus.

6. The Mauclaire-Barrows operation offers a positive and permanent remedy for prolapse of the ovary, as recurrence is impossible. It is very simple and rapid of execution. The anteligaementous transposition of the ovary in no way interferes with the function of menstruation or fecundation. It is not necessary to fasten the end of the tube forward of the broad ligament in the proximity of the ovary to favor fecundation, as proved by Barrows' cases.

7. The operation can be combined with suspension of the uterus, Gilliam's operation, shortening the round ligaments or the infundibulopelvic ligaments for an accompanying retroversion or prolapse of the uterus and it can be performed by the vaginal route much more readily than the other operations.

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Puerperal Infection from the Gonococcus.—Ellie Macdonald, in the *Post-Graduate*, states that the gravity of this infection exists not so much in its prime infection and immediate constitutional disturbances as in the remote result of tubal and pelvic disease some time after the puerperium. It is a well-known fact, he declares, that streptococcus infection results in slight anatomic alterations of the pelvic organs after recovery from the infection, but the reverse is true of gonococcus infection in which marked alteration of tissue is the rule and spontaneous recovery from pelvic disease from this cause is the exception.

Ovary and Tube and Ovarian Tumors in the Inguinal Canal.

RARE CONDITION. REPORT OF TWO CASES.*

J. H. CARSTENS, M.D.

DETROIT.

As this is a very rare condition I thought the report of two additional cases might be interesting. They are as follows:

CASE 1.—Miss C. Z., aged 22, had the ordinary diseases of childhood, and, as a rule, has been in good health. When 12 years of age she noticed a tumor in the left groin which gradually increased in size and then remained stationary. At this time she started to menstruate, and has been regular and normal since, except pain in the tumor, and in the last year this has been getting much worse. Examination revealed a tumor, in the inguinal canal three and a half inches long and one and a half in diameter, which is fluctuating. I made the diagnosis of so-called hydrocele in the female and advised its removal. Operation March 25, 1906. Operated in the usual manner. In trying to peel out the cyst it ruptured, as the wall was very fine, and I then found an adherent ovary and Fallopian tube in the canal. It had extended from the internal ring down and it was adherent so that there was no communication between it and the abdominal cavity, the fluid had collected in the canal and gave the deceptive appearance. I ligated the ovary and tube close to the internal ring and removed them; peeled out the lining membrane and closed the canal with dry sterilized catgut sutures. She made a complete recovery and has been feeling well ever since.

CASE 2.—Mrs. O. S., aged 39; last child 11 years. I delivered her myself of her first children. For many years she had an inguinal hernia for which she wore a truss. Sometimes on neglecting to wear the truss the hernia would protrude, but it was reduced without much trouble. The year before I saw her this occurred again and it was very difficult to reduce it, but the physician succeeded finally, partially relieving her of most of the symptoms, but there still remained the enlargement and she was not able to wear the truss. She had no symptoms of strangulation and felt pretty comfortable and attended to her usual household duties. Menstruation was regular, with little pain. She noticed an enlargement of the abdomen, but, as she is a large, fleshy woman, paid no particular attention to it, because she was near the menopause and thought she was getting stouter. But she continued to get larger and noticed that it was principally on the right side. She finally called on me for examination. This showed a good sized cystic tumor, evidently an ovarian, on the right side. It was high up and could be just felt through the vagina and fluctuation detected on percussing the enlargement. There was nothing to do except to operate. Nothing of the hernia could be detected. I stated that probably the tumor closed the opening and prevented the intestine from coming down, and on operating I would close the sac from the inside, as I sometimes do in such cases. She entered Harper Hospital and I operated Oct. 13, 1906. As I supposed the tumor was adherent, I made my incision a little to the right of the median line and was astonished to reach the tumor so quickly, without having to cut through muscular tissue. It seemed to lay immediately beneath the outer sheath of the rectus and toward the right. There seemed to be no adhesions, as far as I could reach with my finger, as I had only made a three-inch incision. I tapped the growth and it contained six pounds of white liquid fluid. When pulling out the sac I found the pedicle (which was composed of the tube and broad ligament and the remnant of the ovary) coming through an opening high up near the crest of the ilium, that is, the internal ring. By pulling on the pedicle and introducing my finger, I could feel the uterus. I now tied the pedicle and covered it in the usual manner and removed the growth, then dissected out the sac and closed the opening in the usual manner with dry

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sterilized catgut sutures. She made a smooth recovery with the exception of a small stitch abscess. The hernia is cured.

This was to me a remarkable case, as one would hardly think it possible that the hernial sac could be so dilated that it would contain a tumor weighing over six pounds, and for this reason I put it on record.

In an exhaustive paper on "Hernia of the Ovary and Tube," Dr. Frank T. Andrews¹ read before this Section last year, he reported eighty-eight cases, which shows it to be a rather rare condition. I have had the literature carefully looked over again and find twenty-seven more cases, thus with mine bringing the list up to one hundred and seventeen. Some of the new cases that are reported were evidently overlooked, and the others had been published since Andrews' paper was read.

I will not republish Andrews' list, as his cases are on record, but only wish to add the new cases, which are as follows:

BIRNBAUM² describes a case of hernia inguinalis, in a misplaced ovary, in a woman aged 35. The tumor was the size of a walnut, and was present in the left inguinal fold, and had been repeatedly explained as an inguinal hernia. Operation revealed a small uterus which was probably congenital. The hernia was a utero-inguinalis with histologic changes in misplaced ovaries. The ovary present with the uterus exhibited many variations from a normal structure.

BRÖSE³ reported a case of hernia ovarii inguinalis the size of a walnut containing a segmented ovary with its abdominal end of the tube in the sac, which could be removed without opening the abdominal cavity.

CULLEN⁴ reports a case in which the ovary has embedded itself in a scar from a former appendix incision, which was discovered by a visible bulging of the scar by sensation of weight in the lower abdomen. After resecting the old scar and entering the abdomen it was found that an apparent adherent omentum was in reality a large cystic ovary, which laid directly beneath the skin. Attached to it was a hydrosalpinx fully 1.5 cm. in diameter. After loosening the omental adhesions to the ovary, the abdomen was closed without drainage. The patient fully recovered.

DENEUX⁵ relates a case in a multipara who fell during pregnancy and produced a tumor at the inner edge of the crural arch. After delivery the patient was operated on for femoral hernia, and a hydatid was found, behind which lay the ovary, three-fourths of which was cystic.

HODGE⁶ reports a case of strangulated hernia of the ovary in a two-months-old Italian child. Operation under chloroform revealed a thick hernial sac, which contained a swollen and discolored ovary, almost black, $3\frac{1}{2}$ by $1\frac{3}{4}$ cm. in size. There was no intestine in the sac. The ovary and tube were ligated and the parts repaired as well as possible. The child had good convalescence.

KIEFFER⁷ reported a case of an ovary in a femoral hernial sac. The operation exposed a hernial sac, adherent internally to a mass of fat surrounding a firmer body, an ovary enveloped in thickened omentum. The ovary was as big as a large almond and extremely sclerosed; it contained some atrophied corpora lutea, and a small follicular cyst of the size of a pea. The displaced organ was removed, the omentum resected with the sac, and the crural canal closed.

LALLEMENT⁸, in 1816, had a case of right crural hernia containing the uterus, tubes, ovaries, part of the vagina and pieces of the epiploon. The hernia had existed forty years and the right ovary had become encysted.

LAMBERT⁹ reported before the Medical Society of the Northern Department of France a tube and ovary which he found

in an inguinal hernia, in a maiden aged 22. It formed a tumor about the size of a hen's egg in the left inguinal region, extending down to the labium majus on the same side. When the sac was opened it was at once visible that both the tube and the ovary were partly atrophied. They were accordingly dissected as high as possible.

MAYLARD¹⁰ describes a case of strangulated femoral hernia of the ovary in a patient aged 75. A herniotomy revealed the ovary, which was removed. Patient recovered.

MILLER¹¹ reports a case in a woman aged 40. The tumor was visible in the right femoral region; at intervals she wore a truss, occasionally suffered a great deal of pain in the right groin. The mass was irreducible; an operation revealed a cystic and deeply congested ovary. Recovery.

NICOLL¹² cites four cases of hernia of the ovary in children: One case in a child aged 3 years, in which the hernia contained an ovary which was supposed to have been developed at the age of three months. The other three cases, the ages ranged from 4 to 9 years of age, in which the inguinal hernia contained the ovary, but it was supposed that the "lump" had already been noticed from early infancy.

NICOLL (I. H.),¹³ of Glasgow reports several cases of hernia of the ovary in infants.

CASE 1.—A babe aged 9 weeks, hernia of the ovary and fluid in the canal of Nuck; ovary reduced and canal obliterated.

CASE 2.—A babe aged 2 months, hernia of ovary which contained two small cysts; cysts destroyed with pure carbolic acid; ovary reduced and canal obliterated.

CASE 3.—A babe aged 2 months, hernia of ovary which contained a small cyst of green-pea size; cyst removed with sharp spoon; ovary reduced and canal obliterated.

CASE 4.—A babe aged 3 months, operation, ovary found enlarged and congested and adherent to the sac.

CASE 5.—A babe aged 3 months, operation, ovaries returned and canal obliterated.

Nicoll says that he "saw two such cases of bilateral ovarian hernia in some thirty-five cases."

CASE 6.—Baby aged 4 months, operation confirmed the diagnosis of hernia of the ovary. The Fallopian tubes were also found in the sac.

CASE 7.—Baby aged 2 months, operated on for pyloric obstruction, but it was also found a hernia of the ovary. The child also had an umbilical hernia.

CASE 8.—Baby aged 4 months, hernia of the ovary in which the operation had to be postponed on account of severe eczema of the trunk and limbs.

OETIZZEN¹⁴ operated on a case of hernia of the ovary. After the sac was opened the tube and the ovary were returned to the abdomen.

OWENS¹⁵ relates a case of strangulated hernia of the right ovary in a patient aged 39, who for a period of about ten years noticed the tumor in the right femoral region and suffered from pain most of the time. Taxis was attempted, but failed, and a herniotomy was performed, revealing a tumor which was strangulated and cystic. It proved to be the right ovary. The cysts were emptied and the mass returned to the abdominal cavity. Recovery.

PARSCHE¹⁶ reports a case of prolapsus ovari in the femoral ring, circulation a strangulated femoral hernia, in a woman aged 43. The tumor was located in the right femoral region. It was hard, with no superficial redness, but extremely painful to any kind of manipulation. The tumor measured 6 cm. in length and 4 cm. in width, and was oval or pear-shaped, the size of an orange, and appeared very black and congested after exposure. The ovary has been found undergoing degeneration, having been converted into a glandular cystoma of a multilocular character.

PUECH¹⁷ has found 16 cases of crural ovarian hernia; all

1. THE JOURNAL A. M. A., Nov. 24, 1906.
2. Berliner klin. Wochschr., May 22, 1905.
3. Monatschr. f. Geburtsb. u. Gynäköl, xxiv, 698, 1906.
4. Johns Hopkins Hosp. Bull., May, 152, 1906.
5. Recherches sur les Hernies de l'Ovarie, 1813.
6. Annals of Surgery, xiv, 938, 1906.
7. Bull. de la Soc. Belge de Gyn. et d'Obstet., January, 1905.
8. Described by Cloquet, Pathologie Chirurgicale, 1831.
9. La Gynecologie, June, 1905.

10. Brit. Med. Jour., 1892, i, 761.
11. Medical News, ix, 297, 1892.
12. Glasgow Med. Jour., lxiv, 268, 1905.
13. Glasgow Med. Jour., lxx, 367, 1906.
14. St. Petersburg Med. Zeitschr., 1868.
15. Brit. Med. Jour., ii, 690, 1873.
16. Internat. Jour. Surg., 299, 1906.
17. Medical News, ix, 297, 1892.

were acquired; none of the casts appeared before the twentieth year.

WEBSTER¹⁸ is reported by Patsche to have had two cases:

CASE 1.—An operation for femoral hernia; the tumor was the size of a small orange with a pedicle freely movable in the femoral canal. The tumor contained straw-colored fluid, the solid part resembled ovarian tissue. A diagnosis of cystoma of an ovary in the femoral canal was established.

CASE 2.—Manifested symptoms of strangulation. Webster operated for a femoral hernia and found a tumor the size of a hen's egg. The tumor resembled a cystic ovary, which was so diagnosed.

In the whole list there is not a single case of a large ovarian tumor. They were all ovaries, sometimes cystic, sometimes atrophied, but no mention is made of an ovarian tumor and I am glad to put my case on record before this Section, as this is a rare condition.

Most of us have seen very few cases of ovarian hernia, and it strikes me as peculiar that Nicoll, of Glasgow, should report a dozen cases, which seems to point in the direction of a congenital tendency. The probability is that these cases were all, more or less, related to each other. All the other cases are reported singly, or at least only a few in the experience of one man, which shows the extreme rarity of this condition.

DISCUSSION

ON PAPERS OF DRs. CARSTENS AND WARD.

DR. D. TOD GILLIAM, Columbus, Ohio, thought that Dr. Ward had solved the problem of dealing with a prolapsed ovary with or without retroversion of the uterus. He failed to see how an ovary fixed in that way could become displaced or be inconvenienced in any way. It does not, he said, make much difference in regard to fecundation where the ovary is in the abdomen. The old idea that the fimbriated extremity of the Fallopian tube must grasp the ovary in order to receive the ovule was exploded long since. There are many theories as to how the ovule gets into the fimbriated extremity. In several of Dr. Ward's cases pregnancy followed the operation, showing that the woman is left in as good condition as before. By many of the old methods of operation the ovary is suspended in an abnormal way. The methods with which Dr. Gilliam is acquainted have left the ovary pendant with a certain amount of traction, which to susceptible persons must give rise to annoyance and pain. Dr. Ward's method, he said, eliminates that feature entirely.

DR. WALTER B. DORSETT, St. Louis, Mo., called attention to the fact that there is in these cases a previous inflammatory condition; whether that inflammatory condition is due to subinvolution, or to some infection, does not make any difference. The ovary is prolapsed. The uterus is retroverted and prolapsed because it is heavy, and in examining these patients many are found to have cystic ovaries, or the great majority of ovaries are heavy. Dr. Dorsett suggested that if Dr. Ward had gone further and indicated some measure by which the cystic condition could have been relieved, he would have made a better paper. Dr. Dorsett has been in the habit, for the last five or six years, of resecting the ovary, and he has had some remarkable results follow operations done to give relief from ovarian dysmenorrhea. Although the majority of writers to-day do not believe that cystic ovaries produce dysmenorrhea, Dr. Dorsett said that he had cases where he was sure that the condition was due to a cystic ovary. One case, in particular, was that of a trained nurse, who for seven or eight years had been incapacitated for work and become a morphin habitué. Dr. Dorsett opened the abdomen and resected both ovaries, and for the past two years the woman has menstruated without any pain at all. On the consideration of this prolapse of the ovary, he said, there must be taken into consideration the cystic condition. Operation is easily and quickly done. The ovary is incised down to the hylus, the membrane cut out, and the

ovary sewed together with a small catgut ligature. By working along these lines one does not have to do the complicated operation of stabbing a hole in the broad ligament, pulling the ovary through and fastening it in an unnatural position. Dr. Dorsett thought that there might be trauma from the pressure of a tightly worn corset when the ovary is fixed so far forward in the pelvis and particularly when the uterus rises in the abdomen in pregnancy.

DR. H. J. BOLDT, New York, expressed surprise that Dr. Ward and Dr. Barrows had operated on 37 patients with prolapsed ovaries. He believes that those who do much gynecologic work will see a large number of patients who have prolapsed ovaries and that it seldom is found that such prolapse gives rise to symptoms. In many instances retroversion is associated with prolapsed ovaries, yet large cystic ovaries will prolapse without retroversion of the uterus. Dr. Boldt thinks it makes little difference, if the ovary is not too large, whether or not there is cystic degeneration; but, when a large ovary is prolapsed, occasionally there will be symptoms caused by the displacement. Although he has not done the operation of making a slit in the broad ligament, yet from a theoretical standpoint he thought that this method might cause circulatory disturbances. If the results are as satisfactory as is claimed by Dr. Ward and Dr. Barrows, it would be well worth giving the method a trial. It is an extremely difficult matter, however, to suspend the ovary, after it has been prolapsed, with a permanently satisfactory result.

DR. GEORGE G. WARD, JR., New York, stated that the discussion of his paper had been somewhat handicapped, because the paper was a little long and he was obliged to omit reading a considerable portion of it. In the first place, he disclaimed any credit for originality, as the operation was not his, as Dr. Gilliam's remarks might have led some to think. The operation was probably done first by Professor Mauclair of Paris, in 1903. Barrows did identically the same operation in 1904, and reported it in the *Medical Record*. Barrows reported his first case to the New York Medical Society in 1902. Dr. Ward became familiar with the operation and tried it as an experiment in his own cases, and with very satisfactory results. He terms it the Mauclair-Barrows operation. The difference between the two operations is that one puts the ovary under the round ligament, the other above it. He prefers Barrows' method of putting it above the broad ligament. Barrows found it necessary to shorten the round ligament and the infundibulated ligaments. Dr. Ward has not found it necessary to shorten these ligaments in every case. Such a step is apt to cause obstruction in the venous circulation. That, however, is an additional consideration to be decided by the judgment of the individual operator. In two of Dr. Barrows' cases pregnancy occurred. In two cases there was distinct failure. One patient had considerable pain afterward. On opening the abdomen there was found a pelvic peritonitis with adhesions, which were attributed to a gonorrhoea contracted subsequent to the primary operation. The second patient had pain in the ovary as before. On opening the abdomen of this patient nothing abnormal was found, but the ovary was removed. It was sectioned, but only connective tissue changes were found. It was of interest to note that in this case there was no relief from the pain after the ovary was removed. The case, he thought, was probably one of neurasthenia. As to resection of the ovary, Dr. Ward said that in many of these cases resection had been done and the patients were in this condition after resection. The uterus was retroverted in the majority of these cases. Because more of these cases occur with retroversion than without, the shortening of the round ligament is of value. As to the possibility of traumatism from a tight corset with the ovary in that position, Dr. Ward said that in the cases without enteroptosis he uses the straight front corset, put on in the elevated hip position. In the two cases of Dr. Barrows in which pregnancy occurred, there was no trouble throughout the pregnancy. Nor is there any trouble in regard to constriction, as Dr. Boldt suggested. The puncture opens out very readily and widely. The buttonhole can be made amply wide and the two stitches will not permit it to extend.

¹⁸ Internat. Jour. Surg., 301, 1906.