Pregnancy after removal of both ovaries for cystic tumour / by Alban Doran.

2. 2.

PREGNANCY AFTER REMOVAL OF BOTH OVARIES FOR CYSTIC TUMOUR.

BY

ALBAN DORAN, F.R.C.S.,

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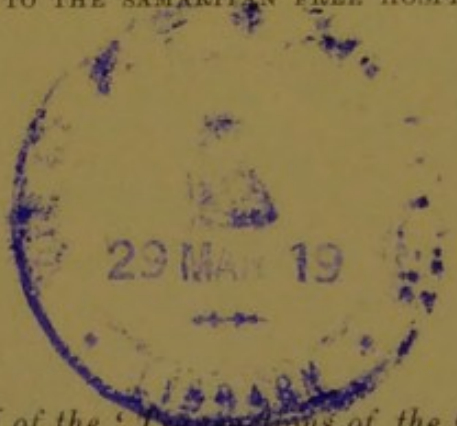

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1902.

Clinical Records.

FALLOPIAN TUBES, LIGATURED TWICE AT PREVIOUS OPERATIONS, AND REMOVED IN THE CASE OF A THIRD CÆSAREAN SECTION. (a)

By J. W. Taylor, M.D., F.R.C.S.,

President of the British Gynæcological Society; Professor of Gynæcology in the University of Birmingham.

The history of these specimens is as follows:—M.S., a strumous dwarf, æt. 25, with both curvature of spine and contracted pelvis, was married in July, 1900. She immediately became pregnant, and was sent to me for operation by Dr. Darroll, of Leintwardine, in February, 1901.

Labour commenced on the morning of March 29th, when I operated by Cæsarean section, removing a healthy female child which is still living. After suturing the uterine wound, I tied each Fallopian tube by a single ligature of silk as some bar to further pregnancy. The mother and child both did well, and left the hospital on April 17th, but remained at our Convalescent Home for some time longer. The following year (1902) the patient developed tuberculous disease of the right knee-joint, and her leg was amputated above the knee at Shrewsbury Infirmary on September 22nd, 1902. In 1903 she again became pregnant, and was sent up to me once more by Dr. Darroll towards the end of August. I did a second Cæsarean section on September 14th, 1903, removing again a living female child, which, however, was very feeble, and only lived about half an hour. After the suturing of the uterine incision was completed, I carefully examined the Fallopian tubes, and found considerable atrophy at each site of ligature. The atrophy was most marked on the right side, where the tube seemed narrowed to a point. The silk had been absorbed. I placed two fresh ligatures of silk on each Fallopian tube (four ligatures in all, but without any cutting or removal), and closed the abdominal wound. The patient did well after the operation so far as the section was concerned, but during the whole of the time of her stay in hospital she was troubled with chronic strumous conjunctivitis and ulceration of the cornea, an affection from which she had been suffering for nearly two years, in spite of the free administration of cod-liver oil. She went to the Convalescent Home on October 8th, 1903.

Early in this year I heard from Dr. Darroll that from the date of her return home she had never menstruated, and was evidently again pregnant. She came up in July last, and I found that this was indeed the case. On this occasion I determined to remove the uterine appendages, but was anxious not to hurry the performance of the operation so as to obtain a living child, if possible.

PREGNANCY AFTER REMOVAL OF BOTH OVARIES FOR CYSTIC TUMOUR.

By Alban Doran, F.R.C.S.,

SURGEON TO THE SAMARITAN FREE HOSPITAL.

(Received April 3rd, 1902.)

(*Abstract.*)

A woman aged 25, after bearing one child, underwent ovariotomy for a multilocular adenomatous cystic tumour of the left ovary. She then bore four more children, and afterwards, when thirty-nine years of age, came under the author's care, and he removed a similar tumour of the right ovary. The base required enucleation, part of the capsule was ligatured like a pedicle with silk, and the greater portion cut away, but in that part no trace of the Fallopian tube could be detected. A small tubercle on the left of the uterus was the sole remnant of the left appendages. After convalescence the period recurred, and continued till the patient became pregnant and bore a child at term two years after the operation. The period then returned, and ceased abruptly when the patient was forty-five. The consequent menopause symptoms were distinct though mild.

The author briefly reviews a few cases already reported where pregnancy ensued after the removal of both ovaries for tumour or chronic inflammatory disease.

(1) Schatz. Both ovaries removed for cystic tumour; one tube and a piece of ovarian tissue were purposely left behind. Five years later the patient gave birth to a child at term.

(2) Stansbury Sutton (Pittsburgh, U.S.). Both ovaries removed for cystic disease; right pedicle severed by cautery, left by scissors. Patient twice pregnant afterwards.

(3) Gordon (Portland, Maine, U.S.). Removed both tubes and ovaries for inflammatory disease; patient delivered of a child two years later. Other reported cases are doubtful.

The presence of ovarian tissue is essential in these cases. In the author's case it was probably a detached area lying in the right ovarian ligament; the cyst itself was certainly enucleated entire. The author suspects that the Fallopian tube escaped ligature and removal altogether, the base of the tumour being enucleated from the posterior layer of the broad ligament. The condition after operation would then be as in Schatz's case, the tube remaining entire. It was not absolutely certain, however, that the tube was not included in the ligature and in part removed. This occurred in Stansbury Sutton's and Gordon's cases, and reference is made to a case where pregnancy occurred after Cæsarean section and ligature of both tubes with silkworm gut for "sterilisation" (Galabin-Horrocks). The ligature may either loosen or perhaps ulcerate through the tube, which manages to heal behind it without stricture of its canal. The tube may then resume its functions, even if reduced to a stump.

In the summer of 1894 I performed ovariotomy upon two patients who had already undergone that operation. In both cases the disease was cystic tumour. I reported them in the 'Lancet' for December 15th, 1894,* mainly on account of the case with which we have not to do at present. In 1889 I removed from a woman aged fifty a multilocular papilloma of the right ovary, and noted "the left was elongated and atrophied." The patient had reached her menopause. The disease appeared again, and in July, 1894, I operated, removing a multilocular papilloma of the left ovary. At the present time, eight years later, she was free from any sign of recurrence.

The entire aim of the article which I wrote on these two cases was to turn attention to Pfannenstiel's opinion that "in all cases of tumours which have a notorious tendency to become bilateral, namely, carcinoma, sarcoma,

* "Two Cases of Ovariotomy performed Twice on the same Patient," 'Lancet,' vol. ii, 1894, p. 621.

endothelioma, *as well as papillary tumours, be they adenomata or carcinomata*, the opposite ovary should be removed *even when it appears healthy*, whatever may be the patient's age." I conclude that the above case rather strengthened this opinion of Pfannenstiel's, "nevertheless the removal of a healthy ovary is not to be lightly undertaken."

I made much less of the case now to be considered. I simply removed a cystic tumour of the right ovary fourteen years after a similar growth on the left side had been taken away by a distinguished authority. That authority spared the ovary which I had afterwards to remove, as when he operated it showed no sign of disease. I, too, in my first operation on the case of papilloma did not feel justified in amputating the opposite ovary, which in that instance seemed atrophied. In the case to be considered there was a cystic ovarian tumour which I had to remove. I noted that there was no recurrence in the pedicle of the other ovary, and no further details were necessary on an article devoted to the question of recurrence.

It happens, however, that the patient not only menstruated regularly after the second ovariotomy, but also bore a child to term two years after the operation. I will, therefore, quote in full the notes which I took directly after the ovariotomy. They have proved of great value as throwing light on the question now to the point—pregnancy after double ovariotomy.

The patient in the summer of 1894 was thirty-nine years old. She had been married for eighteen years, and after bearing a child underwent ovariotomy, Dr. Robert Barnes removing a multilocular cyst of the left ovary. This happened fourteen years before she came under my care. She bore four children after the first operation, the youngest being three years old in 1894, and she had never aborted. In the summer of 1893 the patient's abdomen began to swell. Sir Spencer Wells saw her, and diagnosed an ovarian cyst and sent her on to me.

There could be no difficulty in diagnosis. On June 14th, 1894, I operated. I will quote my notes entire.*

"Parietes very thin, no adhesions. A multilocular cyst came in sight; the omentum ran on to it, firmly adherent to its capsule. I tapped two loculi; about a pint of chocolate-coloured ovarian fluid escaped. Then I detached omentum and a coil of small intestine closely adherent to the cyst wall, somewhat to the left, and at the fundus of the cyst, at the level of the umbilicus. The mesentery formed a kind of capsule to the back and to the right side of the cyst. I separated the intestinal adhesion partly with my index nail, partly by cutting with scissors. A sponge was applied to the separated intestine; the adhesion oozed considerably; then the coil was kept out of the upper angle of the wound, and covered with a warm damp towel.

"The mesentery and broad ligament were detached from the cyst, the base of which was drawn up and then seen to lie close against the uterus on the left and the vermiform appendix on the right. The base of the capsule was tied with a Bantock knot (this term signifies that, after transfixion, one end of the silk was drawn through the loop and tied to the other end, according to Dr. Bantock's practice).† An artery had been divided on the *upper* aspect of the base of the capsule (probably the ovarian artery, course diverted by the burrowing of the cyst);‡ it was secured by a forceps and drawn into the ligature. Two ragged pieces of adherent omentum and one tag, running into Douglas's pouch, were tied with No. 1 silk. There was no blood in Douglas's pouch, and the separated adhesion on the small intestine (which after the dividing of the ligatured base of [the] capsule had been returned into the abdomen covered by a sponge) had ceased to bleed. No drainage. Iodoform freely applied to wound" (an ancient custom).

* I headed the case "Ovariotomy (second, first fourteen years ago); Enucleation," in my note-book.

† I used, as I still use, silk No. 3, China twist.

‡ This parenthetic sentence is part of the original text.

"*Description of tumour.*—A multilocular cyst, five and a half ounces, three main loculi exogenous; a fourth, nearest uterus, contained glandular material.* Fluid two pints *plus* some lost." Here comes a line which I thought trivial at the time, but which has proved to be of great importance: "(no trace of Fallopian tube in capsule, see p. 6)." On turning to page 6 of the note-book I see that I entered under *Generative system*, "Period regular, three-weekly, very free show (not a trace of ovarian tissue found in tumour; I must have left the tube in the capsule: note effects), see p. 22." On turning to page 22 I find note under *Subsequent history*, "November 1st, 1894, visited me. In no pain, *but period has been seen regularly since operation*; last period during last week in October."

The note on "Description of tumour" ends—"The uterus was pushed to left, and on its left side the broad ligament was much shortened; the stump of ovary removed fourteen years was a small tubercle." I have been careful not to corrupt the text of this ancient document. Hence I have retained the expression "capsule" twice used in a manner tending to mislead, as will be explained. I remember that it was the base alone of the tumour that burrowed into the broad ligament. The patient made a good recovery, as noted above. I saw her five months after the operation, and was surprised to learn that she had menstruated.†

Until this year I never heard directly from the patient after November, 1894, though a friend of hers occasionally informed me that she was in good health. In March, 1902, she consulted me, fearing a recurrence of the tumour, as there was pain and swelling. The distension was purely flatulent. The pain was caused by a mass of scybala, which I felt in the left fornix and succeeded in getting away; they were as hard as pebbles, and had caused diarrhœa. The uterus was quite mobile, and both

* Had this glandular cyst in the base of the tumour not been enucleated recurrence would have been almost certain.

† See "Atrésie congénitale de la [illegible]" Legars. Comptes rendus de la Soc. d'Obstét. de Gyn. et de Paed. de Paris, June 1907, p. 183 (& Annales de Gyn. 1907, p. [illegible]) A lady aged 20 had menstruated regularly tho' part of each tube was absolutely unde

fornices were free from any deposit, etc., after the scybala had been cleared away. The patient then said she was troubled with flushings occasionally. I asked her about the period, expecting that it would have ceased within a year or two after the operation. Then she told me that it was last seen as late as December, 1900, when she had a severe shock owing to a sudden death in her family, and the period never returned; she was therefore just over forty-five at the menopause. I was interested with this after history, but my surprise was great when she volunteered the statement that she had borne a child since I removed her second ovary. I asked her for further information, and then she explained that she had given birth to a child in the summer of 1896, just two years after the operation.

I at once wrote to Dr. Stacey Burn, of Richmond, who attended the patient on that occasion, and he replied, "I remember Mrs. —— very well. I find she was confined on July 23rd, 1896, of a girl. I had to use forceps, though there was apparently no obstacle to the descent of the head, but I believe she has always had to have forceps used. I quite well remember her telling me about her two operations, and that you had told her that she would not have any more children. I have no notes of the case, but there was nothing abnormal about it beyond what I have said."*

From the above records of this case it is clear—

(1) That a cystic tumour of the left ovary was removed by Dr. Barnes when the patient was twenty-five.

(2) That after the operation she bore four children, and then a cystic tumour of the right ovary developed, which I removed when the patient was thirty-nine, finding the stump of the pedicle on the left side reduced to a mere tubercle.

(3) That not only did the period recur soon after the second operation, the menopause not being established till

* The patient was unable to suckle this or any other of her children; the mammæ were very ill-developed.

X In Jan. 1916 the patient wrote "Husband is now 20 years old & is well"

the patient was forty-five, but she also became pregnant and bore a child at term two years after the operation.

Again, it seems equally clear—

(4) That the tumour removed by Dr. Barnes was an ovarian or oöphoritic cyst, not a paroöphoritic cyst; whilst whatever the tumour might have been, the tube and ovary were practically extirpated.

(5) That the tumour which I removed was certainly a true ovarian (oöphoritic) cyst, multilocular, with adenomatous tissue (never seen in a paroöphoritic cyst) in some of its loculi, and with characteristic brown fluid.

(6) That the base but not the rest of the cyst burrowed considerably into the right broad ligament, whence it was enucleated. The strong adhesions have nothing to do with the question under discussion, and when I noted that the omentum was adherent to the "capsule"* I simply meant the "surface" of the upper part of the cyst. I found the base of the cyst "close against the uterus," and enucleated it.

(7) That I trimmed away the greater part of the capsule after the enucleation, and made two notes, which have proved to be more important than I expected: "No trace of Fallopian tube in capsule;" and "not a trace of ovarian tissue found in tumour; I must have left the tube in the capsule." I meant by this that the tube remained in the part of the capsule left behind.

(8) That the base of the capsule was transfixed and tied like a normal pedicle, whilst the tube, probably entire, was not included in the ligature. I will discuss presently the possibility that the tube was included in

* I reported, "The mesentery formed a kind of capsule to the back and to the right side of the cyst." The term "capsule" so used is a little confusing; but I added, "the mesentery and broad ligament were detached from the cyst, the base of which was drawn up," etc. What I signified was that the mesentery was freed from its adhesion to the back of the cyst, and the broad ligament peeled off the base of the cyst, which was then drawn up, and the base of the capsule ligatured as a pedicle.

the ligature, and that I did not recognise the portion that must, in that case, have been cut away.

(9) That some ovarian tissue must have been left behind, free from any trace of cystic adenoma, which is almost certain to recur if not thoroughly extirpated.

I will now consider, firstly, some reported cases of pregnancy after the removal of both ovaries; and secondly, the possibility of the restoration of the function of a ligatured tube.

Under the first heading come cases reported by Schatz, Stansbury Sutton, and Gordon.

Schatz, of Rostock,* performed ovariotomy on a single woman aged twenty on February 20th, 1880. He removed a cystic tumour of the left ovary, and with it the outer third of the corresponding tube. The right ovary was of the size of a walnut, and showed evidence of cystic degeneration. He removed it, but purposely left some ovarian tissue in the stump, and spared the Fallopian tube altogether. Menstruation returned on May 9th, 1880, after attacks of hypogastric pain in March and April. The patient was married on April 23rd, 1884. The period ceased after August, and on May 12th, 1885, she was delivered at term of a girl. The forceps was used as the labour was lingering.

Stansbury Sutton's (Pittsburgh, U.S.A.) patient † was thirty-two years old, and had a child six years of age when he operated on March 20th, 1892, removing a multilocular cyst of the left ovary and a colloid cyst of the right ovary. The right pedicle was severed by the cautery, the left with scissors. The uterus being retroverted, it was fixed to the lower angle of the wound. On June 10th, 1894, she gave birth to a male child weighing ten and a half pounds. In 1896 she was safely delivered of another child. Stansbury Sutton believed

* "Schwangerschaft nach doppelseitiger Ovariotomie," 'Centralbl. f. Gynäk.,' 1885, p. 353.

† "Double Ovariotomy followed by Pregnancy and Delivery at Term," 'Amer. Journ. Obstet.,' vol. xxxiv, 1896, p. 92.

that there must have been a detached piece of ovarian tissue in the left stump to which the cautery was not applied. He thought that if the ligature were tied sufficiently close up to the uterine cornu so as to cut the sympathetic nerve there would be no more menstruation. He added another case in his own experience where he removed both ovaries with the tubes for chronic inflammatory disease or some similar affection. Nine months later, less forty days, she was delivered of a child.

In the discussion which followed the reading of Stansbury Sutton's case before the American Gynecological Society, Lapthorn Smith stated that he had removed the tubes and ovaries from a woman aged twenty-eight subject to dysmenorrhœa. She bore a child about nine months later, but it was probable that a fecundated ovum had entered the uterus very shortly before the operation. Engelmann, Palmer Dudley, and Arthur Johnstone spoke on the merits of the practice of leaving pieces of ovarian tissue when the ovaries were removed for inflammatory disease; some left a tube. Ovarian tissue had been noted as left behind in the proximal side of the pedicle in some of these cases. Here I must note that I should be very averse to leaving ovarian tissue behind when there was a true tumour to be removed.

S. C. Gordon,* of Portland, Maine, records one not very perfect case where a woman aged thirty-six became pregnant in June, 1894, and was delivered in February, 1895. In May, 1891, she had undergone an operation, her husband understanding at that time that both ovaries were removed; but the operator, J. R. Chadwick, had mislaid his notes, so that there was some uncertainty about how much of the appendages were taken away. Presumably the operation was performed for chronic inflammatory changes. Gordon himself removed both ovaries and tubes in March, 1894, from a woman over

* "Two Pregnancies after Removal of both Ovaries and Tubes," 'Amer. Gyn. and Obstet. Journ.,' vol. ix, 1896, pp. 28, 79.

thirty subject to chronic pelvic inflammation. So far as he knew there were no fragments of ovarian tissue left. In June, 1895, the patient became pregnant. She was delivered of a healthy child in March, 1896. In the first case, where Chadwick had operated, menstruation had been irregular between the operation and the pregnancy. After the latter it became regular. In the second case menstruation began within three months of Gordon's operation, and continued regular till the pregnancy. Gordon's cases were read with Stansbury Sutton's at the same meeting of the American Gynecological Society, May, 1896. Both are to be found reported, with the discussion, in two American journals, but a different order is followed in the two reports.

Both in the case where Gordon alone operated and in that which he records on imperfect evidence, the ovaries were removed for inflammatory disease. Under such circumstances it is not easy to get away all ovarian tissue, as the ovaries are small and the ovarian ligaments short. When the pedicle is short the operator rightly dreads slipping of the ligature, and so is apt to make it too long, and leaves a piece of ovary behind. This often happened when oöphorectomy for relief of uterine fibroid disease was popular. In operating for a cyst those ligaments are elongated, so that complete removal is easier unless, as in my own case, the tumour be sessile.

In all the cases, except that recorded by Schatz, the tube was included in the ligature and divided, and its stump must have recovered its functions afterwards.

Schatz deliberately left the tube and a piece of ovarian tissue on one side. In my case, I without doubt enucleated the cyst entire, but there must have been some detached tissue containing follicles in the ovarian ligament, a condition which I have observed.* As for the tube, I

* "There is no authentic instance on record of a third ovary" (Bland-Sutton, 'Surgical Diseases of Ovaries,' etc., 2nd edit., p. 416). Schultzenstein's case is doubtful (see 'Trans. Obstet. Soc.,' vol. xli, p. 198, foot-note to my paper "Fibroid of the Broad Ligament weighing 44½ lbs.").

enucleated the base of the tumour from the posterior layer of the mesosalpinx and apparently missed the tube altogether, hence the notes which I quote above. I tied the ovarian artery, and then must have transfixed the posterior layer of the mesosalpinx alone; thus the tube was not included in the ligature.

Had I transfixed the entire broad ligament, that is to say, the two layers of the mesosalpinx, the tube must necessarily have been included. It would also have been divided, and I would have found it in the part of the capsule removed with the tumour. I did not find it, hence my notes copied above.

On the other hand, supposing that the tube had been ligatured and divided, it might yet have resumed its functions. Such must have occurred in Stansbury Sutton's and in Gordon's cases. This possibility must be considered, since I cannot feel sure that I might not, after all, have included the tube in the ligature, divided it with the rest of the capsule, and failed to recognise its distal end afterwards. When a capsule has to be torn freely the outer part of the tube is not always easy to distinguish; it may be torn or cut off separately and taken for a fibrous band, etc. The separation of numerous adhesions which extended posteriorly to the base of the cyst, as stated in the above account of the operation, confused the relations of the cyst, so the tube might easily have been torn away and its end included, as a mere shred, in the ligature. Altogether I suspect that I did not include the tube in the ligature and did not tear any part of it away. Still I might have done so, and in the other cases the tube was certainly ligatured.

The ligature of the Fallopian tubes was, till recently, considered sufficient to ensure sterility. Mr. Bland-Sutton, when performing a Cæsarean section in March, 1892, "took the opportunity of sterilising the patient by tying each Fallopian tube near the uterus by a single piece of silk. Tying in two places and dividing between

the ligatures is unnecessary, as one ligature will obliterate the lumen of this soft duct." *

Further experience has proved that one ligature will not permanently obliterate the lumen of the Fallopian tube. Dr. Horrocks † recently "mentioned a case in which the patient had been sterilised after Cæsarean section by ligaturing the Fallopian tubes. In spite of this she became pregnant again, and the uterus ruptured along the line of the incision when near full term, and the child and a portion of the placenta escaped into the abdomen. Dr. Galabin removed the uterus, and the specimen is now in the Guy's Museum. The patient recovered. The ligature on one side had cut through the tube, and the severed end lay about half an inch apart. On the other side the tube and ligature looked as if the tying had only just been done, and on experimenting it was impossible to force a coloured liquid through the tube. Still it was thought that in all probability the ovum which had become impregnated had got past the constriction produced by the ligature and so entered the uterus."

Dr. Horrocks informs me that the Cæsarean section was in this case performed by Dr. J. Shaw, and reported in the 'Transactions of the Obstetrical Society,' vol. xxxiv, 1892, p. 98; silkworm gut was used for tying the tubes (ibid., p. 101). In about two years later she was brought into Guy's Hospital in a state of collapse, and hysterectomy was performed as noted above. I understand that in another case, where a single ligature was applied to each tube to sterilise a woman with a narrow pelvis, pregnancy occurred within a few years.

Thus it is easy to understand how the stump of the

* "Discussion on Cæsarean Section," 'Trans. Obstet. Soc.,' vol. xxxiv, 1892, p. 139. For Champneys' method of tying a loop of tube and excising it see ibid., p. 140, third paragraph. See also Kehrer, "De la Stérilité Tubaire," 'L'Obstétrique,' March, 1902, p. 139. I have not been able to obtain the original article by that authority.

† Ibid., vol. xlii, 1900, p. 243.

Benzel. Gestation in stump of a Tubal Gestation Sac. Beiträge z. Geburtsh. u. Gynäk. Vol XVII. p.162 (1912) "Fränkel has shown that even double ligature of the Tube does not insure permanent occlusion of its canal.

"Paz" "Pregnancy after Removal of Fallopian Tubes" B.M.J. Vol II, 1910. pp. 1648, 1091.

tube resumed its functions in Stansbury Sutton's and Gordon's cases, and in mine also if I really tied it. Either the ligature loosens, or else it ulcerates through the tube which heals behind it, and without complete stricture of its canal.

In conclusion, pregnancy certainly occurred in my case after the complete extirpation of two cystic adenomatous tumours of the ovary proper. There must have been ovarian tissue remaining in the right ovarian ligament, whilst the tube was either left intact, as explained above, or if divided after inclusion in the ligature, the stump resumed its functions.

Addendum.

Since reading the above communication I find that I have overlooked some published cases. I therefore add a few short notes briefly recording their principal features.

J. Anderson Robertson.—"Renewal of Menstruation and Subsequent Pregnancy after Removal of both Ovaries," 'Brit. Med. Journ.,' vol. ii, 1890, p. 722. Patient aged twenty-three; both ovaries removed on Jan. 26th, 1889, for chronic inflammatory changes; no note about tubes. Patient married in June, ceased menstruation on October 25th, and was delivered with the aid of forceps on August 13th, 1890. Dr. Robertson believed that possibly a small portion of healthy ovarian tissue extended up to or beyond the hilum of the right ovary. Most probably a piece of ovarian tissue was left on the distal end of the ovarian ligament, which is very short when there is no true new growth in the ovary, as I have explained above.

Kossmann.—'Amer. Journ. Obstet.,' vol. xli, p. 839. Another case of oöphorectomy for chronic inflammatory disease of the appendages. *The tubes were not removed.* Patient became pregnant about a year and a half later, and was delivered spontaneously of a living child. Afterwards she again became pregnant.

M. M. Morris, Boston, U.S.A.—"Pregnancy following

Removal of both Ovaries and Tubes," 'Boston Med. and Surg. Journ.,' vol. cxliv, 1901, p. 86. Another oöphorectomy for inflamed ovaries. In July, 1898, "the ovaries and tubes were tied off with silk quite close to the uterus and removed." The right ovary contained a cyst as large as a hen's egg, and the left a hæmatoma nearly as large as the cyst. Menstruation returned; then the patient became pregnant, and was delivered of a live child on September 12th, 1899. The child died within three weeks and menstruation returned.

J. E. ENGELMANN (M. M. Morris, loc. cit.).—"Pregnancy followed a double ovariotomy in which the right tube was left intact. A microscopic examination made of the specimen later showed that some ovarian tissue had been left." This statement explains the pregnancy. I regret that I have not been able to obtain a copy of the original report in the 'Transactions of the Southern Surgical and Gynecological Association,' September, 1899. It would be interesting to ascertain whether the pedicle on each side was long, consequently bearing an elongated ovarian ligament, or whether the cyst on one side burrowed in the broad ligament and came in close contact with the uterus, as in my case.

M. M. Morris mentions in his paper a case of "Pregnancy after Ovariotomy" reported by C. F. HARDING ('Lancet,' vol. i, 1880, p. 193). But on referring to the original report under the "Notes, short comments," etc., in that journal I find that it was a case of the removal of one large tumour by Walter, of Peterborough, followed by pregnancy directly after convalescence, and labour at term. Morris's quotation is therefore somewhat misleading, as it is placed between notes of Robertson's and Palmer Dudley's cases. "C. F. Harding reports a pregnancy after ovariotomy:" nothing more is said, so that the reader might naturally conclude that the ovariotomy was double.

Noll of Hanau (Zeitschr. f. Geb. u. Gyn. Bd XXI (1905) p. 563) removed a left tube & ovary in the 5th month. pregn. The ovary was as big as a hen's egg & cyst. He removed the tube, leaving a small piece of ovarian tissue which was covered by reposing the peritoneum over it. Pat. had a healthy child 1½ yrs later.

Winter. Pregnancy in stumps of Fallopian Tube. Zeitschr. f. Geb. u. Gyn. Bd 56 (1907) p. 397.

zugänglich gemacht waren, also z. B. wegen absoluter Beckenenge, wegen Phthisis pulmonum bei Gelegenheit des Kaiserschnittes. Kürzlich hat er bei einer ausgedehnten Drüsentuberkulose einer 29jährigen Frau lediglich um dieser willen die Sterilisation vom Abdomen aus vorgenommen.

Die Diskussion wird vertagt.

Sitzung vom 21. Februar 1905.

Vorsitzender: Herr Küstner; Schriftführer: Herr Asch.

Diskussion über Küstner's Vortrag.

L. Fraenkel: Weder die Keilexzision eines Teiles oder auch der ganzen Tube schließt Gravidität aus. Stets kann eine Metroperitonealfistel entstehen. Außer den beiden vom Vortragenden formulierten Möglichkeiten kann auch ein zirkuläres Zusammenwachsen der resezierten Enden und Wiederherstellung des Kanales eintreten.

Asch: Die Indikation zur Tubenresektion muß natürlich stets ärztlich begründet, nicht vom Wunsche der Gatten diktiert sein. Meine erste derartige Sterilisierung habe ich, unabhängig von Kehrer, 3 Monate vor dessen Publikation gemacht, und zwar durch Laparotomie. Alle anderen (abgesehen von solchen gelegentlich von Kaiserschnitten) aber von der Vagina aus. Ich kann auch nicht einsehen, weswegen man von hier aus weniger exakt operieren solle. Aber auch die exakte Keilexzision kann, wie es scheint, mißglücken. Deshalb durchtrenne ich die Tube weiter ab vom Uteruswinkel und versenke den hier beweglichen Stumpf zwischen die verschieblichen Blätter des Lig. latum. Hier verklebt und verwächst die Serosa leichter, wie an dem gespannten Fundus. Den abdominalen Teil der Tube braucht man nicht zu exzidieren; wenn nur die Spermatozoen abgelenkt sind und nicht mit dem Ovulum zusammentreffen können, mag doch das Ovulum die Tube passieren. Aufgabe ist es, die Kommunikation der Uterus- und Bauchhöhle zu verhüten.

Der Indikation vaginaler Fixation wegen vaginaler Lösung der Verwachsungen kann ich nicht zustimmen. Ich schließe an die Lösung durch Kolpotomie bei erhaltenen Adnexen ruhig Alexander-Adams an und brauche so eine nachfolgende Schwangerschaft nicht zu fürchten.

Baumm hält die Vaginofixation an sich noch nicht für einen Grund, die Operierte zu sterilisieren. Er verweist dabei auf seine Darlegungen auf dem Leipziger Gynäkologenkongreß. Die Vaginofixation darf allerdings nicht zu hoch gemacht werden, dann schadet sie späteren Schwangerschaften nicht.

Courant hat 3mal Tubenresektion als Sterilisierungsoperation vorgenommen; er hält den Weg der vorderen Kolpotomie für gegeben.

Schiller hat bei Prolapsoperationen mit Vaginofixation 2- oder 3mal die Tuben exzidiert. Die Verhütung der nachfolgenden Gravidität gewährleistet erst das Operationsresultat.

Biermer glaubt sich in bezug auf die Indikationsstellung im Gegensatz zu den meisten Vorrednern zu befinden. Er nimmt bei fast allen Vaginofixationen Tubenresektion vor. Nur die Sterilisation garantiert den Erfolg der Operation. Eingreifende Operationen zur Herstellung der Arbeitsfähigkeit müssen dauernden Erfolg versprechen. Vaginofixation ohne Sterilisation bringe die Frau in Gefahr und hebe den Erfolg der Operation bei eintretender Geburt auf.

Küstner (Schlußwort): Ich erkenne aus der Diskussion mehrfach das Bestreben der Herren Redner, den technischen Teil der Sterilisation so exakt wie möglich vorzunehmen, mit größtmöglicher Sicherheit der eventuellen Erfolglosigkeit der Operation vorzubeugen. Diese Bestrebungen decken sich mit der Tendenz meines Vortrages. Daß man auch von einer Kolpotomie aus eine vollständig atresierende Operation an den Tubenwinkeln machen kann, ist zweifellos. In meinen beiden Fällen war eben die Operation durch mangelhafte Vorziehbarkeit des Uterus wegen noch bestehender Adhäsionen recht erschwert.

Pregnancy after removal of ovaries

Literature of Preg^cy after removal of both ovaries & allied subjects (Third ovary)

Meredith "Pregnancy after removal of both ovaries" B. M. J. I. 1904. p. 1360

Jarzeff „Zur Frage über die Bauchhöhlenschwangerschaft" Monatsschr. f. Geb. u. Gyn. Vol 28 (Aug 1908) p. 144. Bilateral ovar. removed as long as ovaries, amenorrh. & atypical haem. Vaginal op. 4–5 wks' foetus found close to R^t uterine cornu, free from tubes

Pries "Ovary removed three times". Amer. Journ Obstet April 1909. p 639. He also describes a case where he detected a "beautiful follicle with a normal ovum" in uterine tissue

Pippel "Kystadenoma serosum papillare, von einem dritten Ovarium ausgehend". Monatsschr. f. Geb. u. Gyn. Vol. 31 (March 1910) 379

Morris (N. York) Graft of a piece of ovary on the stump of R^t tube after removal of both appendages Preg^y a month after convalescence, abort. @ 3^d mo. 5 yrs later p^t still regular. N. York. med Journ Oct. 1895, Med. Record May 5. 1906. p 697. Also Sauvé. "Les greffes ovariennes" Paris Steinheil 1909

Polak "3 Cases of Pregnancy following Salpingectomy" Amer. Journ Obstet. Oct. 1910. p. 677

Hörrmann „Zwei Fälle von doppelseitigen Ovarialdermoiden und Gravidität. Rep of a Soc^y. Monatsschrift f. Geb u Gyn Vol 33 (Feb. 1911) p 240 & Zentralbl. f. Gyn. (1) big dermoids both axial rotation 10^th day uterus @ 2^nd mo (2) R^t dermoid, left ovary bore a dermoid deposit which was excised, the corpus luteum of the preg^y was saved & Preg (2^nd mo) continued after op. **Mauclaire** & **Eisenberg-Paperin** (Archives gen. de chir. July 25, 1911 & **Misiel** Paris Med[?] Oct 14, 1911 (Journ. of Obst & Gy Nov 1911 p 253)