

**Case of tubal abortion with double haematosalpinx : operation, recovery : read in the Section of Obstetric Medicine and Gynaecology at the Annual Meeting of the British Medical Association held in Bournemouth, July, 1891 / by Alban Doran.**

### **Contributors**

Doran, Alban H. G. 1849-1927.  
Royal College of Surgeons of England

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CASE OF TUBAL ABORTION  
WITH DOUBLE HÆMATOSALPINX :

OPERATION : RECOVERY.

*Read in the Section of Obstetric Medicine and Gynæcology at the  
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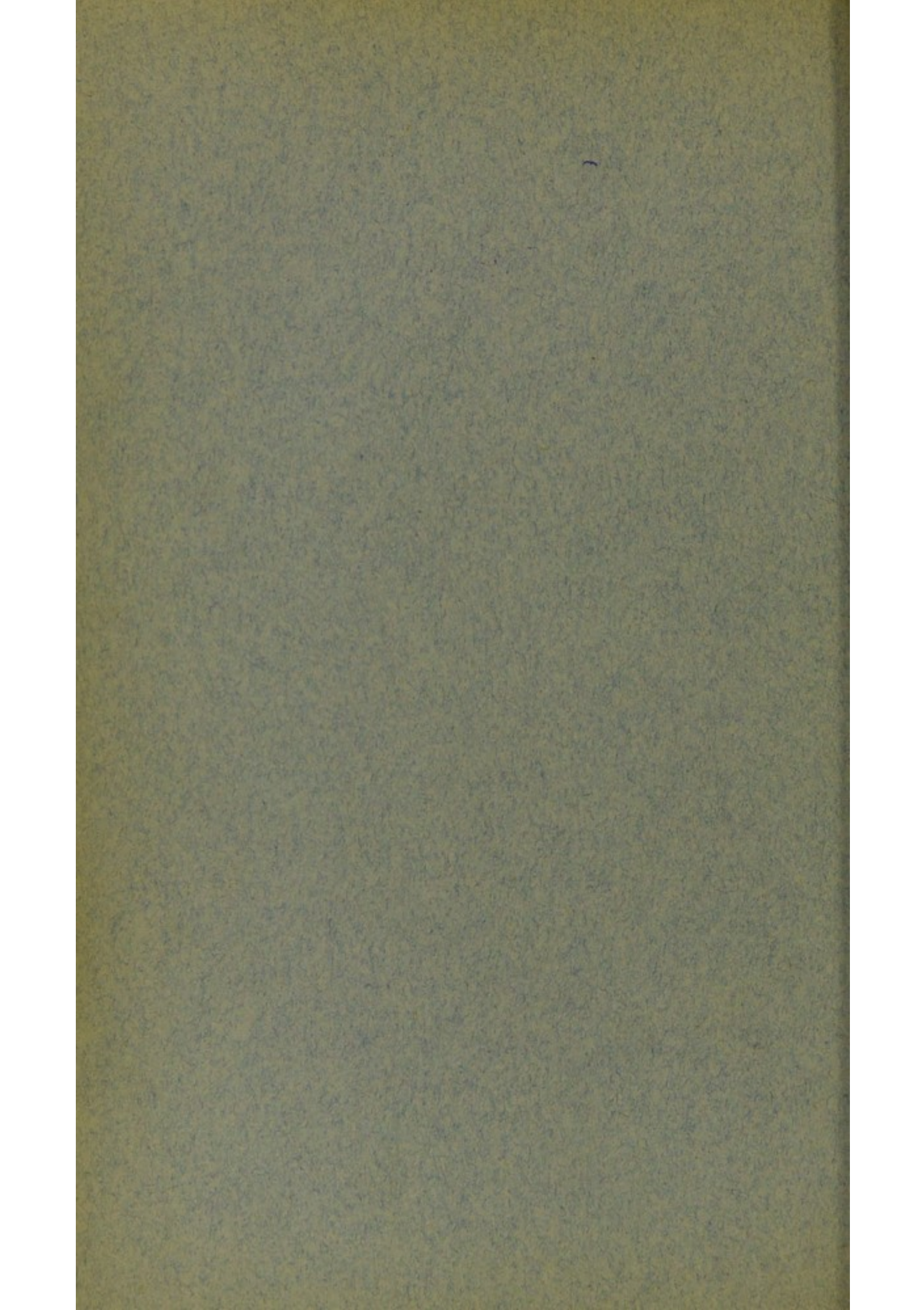
BY ALBAN DORAN, F.R.C.S.,

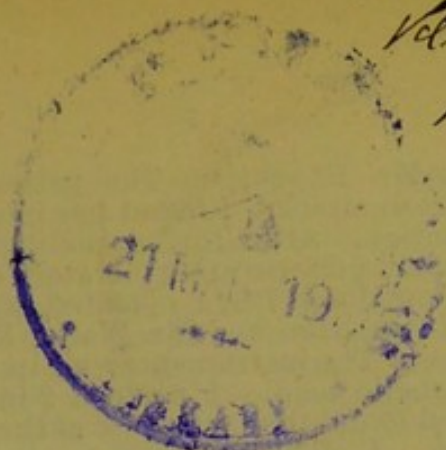
Surgeon to the Samaritan Free Hospital, London.

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CASE OF TUBAL ABORTION WITH DOUBLE  
HÆMATOSALPINX : OPERATION :  
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THE patient, who was under the care of Mr. Walter Roughton, of New Barnet, was 36 years of age, and had been married for thirteen years. She miscarried twice before the birth of her only child, which occurred ten years ago. Two years later, a severe attack of pelvic pain kept her in bed for over two months. From thenceforward till eight years later, when the operation was performed, she was never free from pain. She suffered most during defæcation and when walking; but she was often troubled with severe backache after sitting for some time. The abdomen remained always more or less tender to touch. Five years ago she consulted Mr. Thornton. Although at that time she felt constant pain in the right side of the pelvis, the left appendages alone showed evidence of disease on pelvic examination. I have often observed a similar phenomenon in cases of chronic disease of the appendages.

One night in April, 1890, when the catamenia were nearly three weeks overdue, the patient was seized with violent pain in the hypogastrium, radiating to the mammæ and the lower extremities. The agony was relieved by opiates. Three weeks later a worse attack occurred, and the patient was confined to her bed for two months. The abdomen remained very tender. When apparently convalescent, she was sent to Brighton, where she had another attack, for which Dr. Paley attended her. She soon recovered, and felt fairly well when she left Brighton. At Christmas she was in good health excepting that the usual chronic pelvic pain persisted. On January 12th, 1891, the period was seen for the last time before the operation. Hitherto it had been extremely regular all through the illness. On February 22nd, when the period was a fortnight overdue, she was seized with a violent attack of pelvic pain, which soon passed away. On February 27th, she danced at an evening party in her own house; a very severe attack occurred on the 28th. On March 2nd, I went to Barnet and examined the patient. She was fairly robust but rather pale. Bimanual palpation was difficult owing to the pain, which caused firm contraction of the abdominal muscles. I could feel distinct resistance to the left of the cervix, but could not make out any deposit or any well-defined body to the right. I fancied that the local disease was becoming quiescent, and did not advise operation. As I was at the station, on the point of returning to London, I was

called back by Mr. Roughton. The patient had just been seized with a fresh attack. I found her in great pain and in a cold perspiration. After further deliberation, it was decided that I should perform an exploratory operation.

Accordingly, on March 7th, I operated, with the assistance of Dr. Edmund Roughton and Mr. Walter Roughton, Dr. Gill giving chloroform. The instruments were immersed in a 1 in 40 solution of carbolic acid. I made a 2-inch incision in the middle line, and found the lower part of the peritoneal cavity full of dark clot. I cleared away a great quantity with my hands, till at length I reached the left appendages. After carefully breaking down multiple adhesions I drew up the tube and ovary, and found that the tube was dilated close to its fimbriated extremity, where it was lacerated, a very recent clot filling up the laceration. The ostium was patulous, and filled with clot. I applied a large pressure forceps to the root of the appendages, transfixed the broad ligament with a needle armed with No. 4 silk, and tied the silk in the groove made by the forceps. On exploring the right side of the pelvis I pulled up the right tube; the ovary followed easily. The tube was uniformly distended with clot and fluid blood, so that it looked like a black pudding. It bled freely from its very patulous fimbriated extremity. I ligatured the appendages as on the left side, but used No. 4 silk and dispensed with the large forceps, lest it should cut through the softened tissues of the tube. Then I cut away the right appendages, and afterwards removed those on the left side, already ligatured. Much of the great omentum had to be removed; it was fat and œdematous, and strongly adherent to the pubes and lower part of the parietal peritoneum. Lastly, the peritoneum was freely flushed with hot water, a great quantity of clot and fluid blood being thus displaced. The abdominal wound was sutured, then the peritoneum was flushed again, a drainage tube passed into Douglas's pouch, the sutures tied, and the patient put back into bed.

The tube was removed on the second day. At the end of the second week an attack of nephritis occurred, the urine becoming albuminous and depositing epithelial casts. The pelvic condition remained satisfactory; indeed the patient declared that she had not been so free from pain for years. Alarming phenomena of obscure nature were observed on the eighteenth day. At 1.15 P.M., nearly one hour after a mucous stool had been passed with the aid of an enema, a rigor took place, the vaginal temperature rising to  $104.4^{\circ}$ . A quantity of mucus was passed from the bowel. At 3.30 P.M. a more violent rigor occurred, the vaginal temperature being as high as  $106^{\circ}$ , the pulse 130. At 6 P.M. I visited the patient. She was perspiring freely and lying on her right side, free from pain and without any sign of disturbance of the sensorium. The tongue was moist and there was no headache. The vaginal temperature had fallen to  $104^{\circ}$ . I ordered 5 grains of quinine by the mouth. Four doses were given: at 6.30 P.M., 12 A.M., 10.30 A.M., and 5.45 P.M. The temperature in the meanwhile fell steadily, some mucous stools passing. On the twentieth day it was subnormal, and it never rose above  $98.4^{\circ}$  afterwards. The uterus was freely movable and there was no evidence of parametritis or pelvic abscess. Flatus passed freely, nor was the abdomen tender. The cause of the rigors remains uncertain. The rise and fall of temperature was very abrupt, nor did the concomitant symptoms indicate septic

infection. The slimy motions suggested dysenteric disturbance, but the intestinal symptoms disappeared very rapidly, quite contrary to the rule in attacks of dysentery sufficiently severe to cause high fever. The influenza epidemic had not then returned to this quarter of England, yet that disease in one of its anomalous forms is possible in this case. I am loth to ascribe the rigors to a "neurosis," as that term hides ignorance.<sup>1</sup> Yet it may be that the alarming symptoms were caused by some profound effect on the nervous system due to the removal of the ovaries, which might be termed a concentrated artificial menopause. At the end of June the patient was in good health, and the pelvic pain had entirely passed away. There was a slight show on July 3rd, which lasted for two or three days. The patient sometimes complained of the fatigue and lassitude so frequently observed amongst women during the true menopause. Early in September the patient was in excellent health.

After the operation I carefully preserved the amputated appendages. While they were fresh Mr. Lewin prepared the drawings which are here reproduced (Figs. 1 and 2).

The right tube was nearly four inches long. Its ostium was widely dilated, fluid blood issuing freely from it. On making an incision in the side of the tube, much soft, red, recent clot escaped. A cylindrical mass of dark friable clot remained. Both the tube and the clot have shrunk to a considerable extent since the specimen has been in spirit. On raising the clot I found that it was not adherent to the walls of the tubal canal in the outer half of the tube, but was firmly incorporated with the tubal walls towards the uterine end.<sup>2</sup> In this region I detected a minute nodule in the centre of the clot, which suggested an apoplectic ovum.<sup>3</sup> I removed the nodule, and Mr. Targett kindly prepared some microscopic sections. He also made sections of portions of the clot and tubal wall at the point where they were most intimately incorporated. At the same time, sections were prepared of corresponding clot and tubal wall from a specimen of tubal gestation—Mus. R.C.S., Pathol. Ser., No. 4,695—where the donor, my friend Dr. Walter Lowe, of Burton-on-Trent, found an ovum.

The right ovary, rather small, was of irregular form. It contained a few Graafian follicles and an atrophied corpus luteum about six months old.

The left tube showed a small laceration very near the ostium, which was markedly dilated. At the site of the laceration the tubal canal was distended rather abruptly. The remainder of the tube appeared perfectly normal. The dilated portion was full of recent clot. Microscopic sections were made of a piece of the tubal wall trimmed away from the edge of the laceration.

<sup>1</sup> See Coe, Elevation of Temperature of Obscure Origin during the Puerperium, *Amer. Journ. Obstetrics*, June, 1891. The temperature in one case rose to 106.6° on the eighth day after delivery. There was no evidence of any pelvic mischief; the use of the curette and antipyrin proved of little benefit, and strong doses of quinine brought the temperature down to normal in a few days. Malaria was suspected.

<sup>2</sup> Orthmann (Ueber Tubenschwangerschaften in den ersten Monaten, *Zeitschr. f. Geburtsh. u. Gynäk.*, vol. xx, Pt. 1, p. 143, 1890) insists that this incorporation of the clot with the wall of the tube is characteristic of the hæmatosalpinx of early tubal pregnancy, as distinguished from other forms of hæmatosalpinx.

<sup>3</sup> See Bland Sutton, A Case of Tubal Pregnancy, with Remarks on the Cause of Early Rupture, *Med.-Chir. Trans.*, vol. lxxiii, 1890.

The left ovary was plump and succulent, its surface was irregular. It contained a large corpus luteum, of the type seen in pregnancy, with a thick, sinuous, bright yellow wall, and a pale red clot hollow in the centre. In the broad ligament, immediately below the rent in the tube, was a thin-

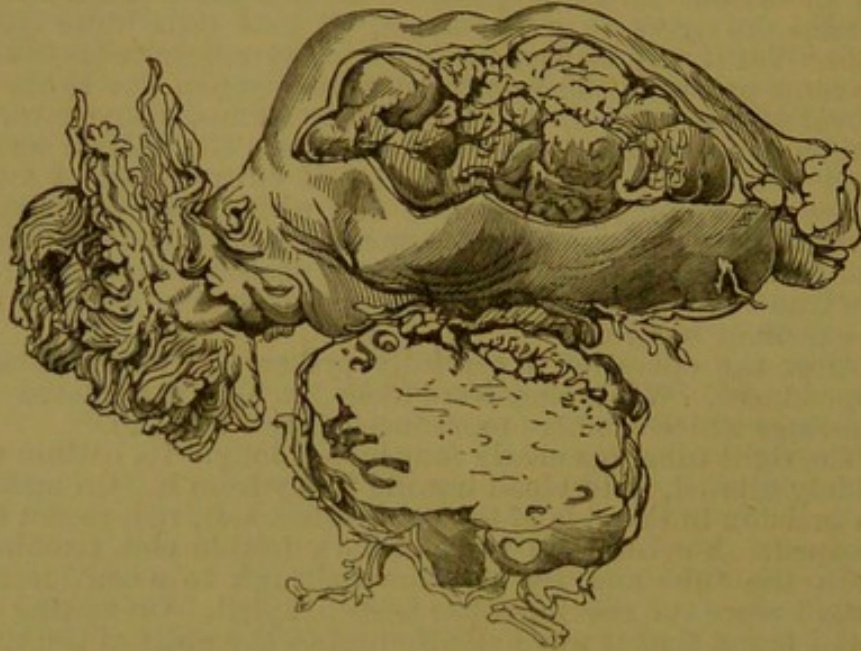


Fig. 1.—Right appendages. The ostium of the tube is abnormally patulous; the canal dilated and filled with clot. The ovary contains no recent corpora lutea.

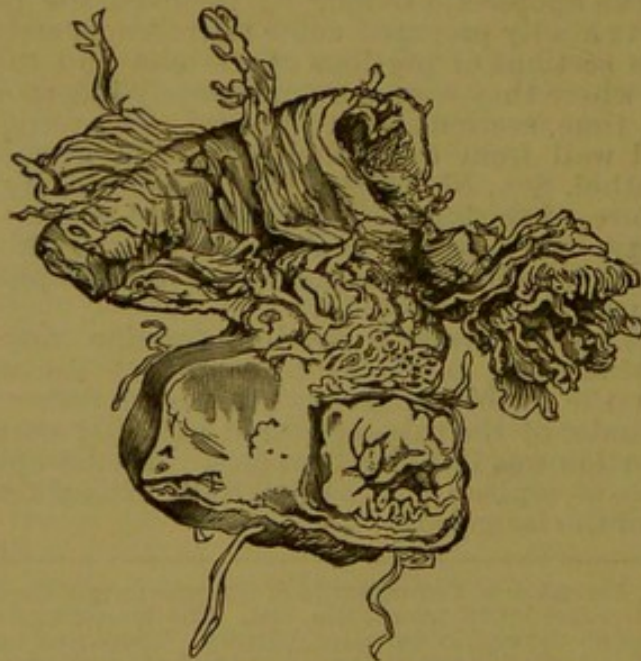


Fig. 2.—Left appendages, showing the rent in the tube close to the ostium, which is patulous. The ovary contains a large recent corpus luteum.

walled cyst, of the size of a hemp-seed. The left appendages have not undergone much contraction since immersion in spirit.

Under the microscope the tissues of the tubal wall at the

edge of the laceration in the left tube showed all the appearances seen in acute catarrhal salpingitis. The plicæ were of abnormal length, clubbed at their extremities, and completely divested of epithelium. The connective tissue was freely infiltrated with round cells. The blood vessels were much dilated. I could not find a trace of any product of conception.

It was otherwise on the right side, where the evidence of gestation was stronger. Fig. 3 represents a section through the tubal wall and the clot at the point where they were most intimately incorporated. The epithelial lining of the mucous membrane of the tube (*ep*) was in parts intact. In the clot lay three bodies bearing all the appearances of chorionic

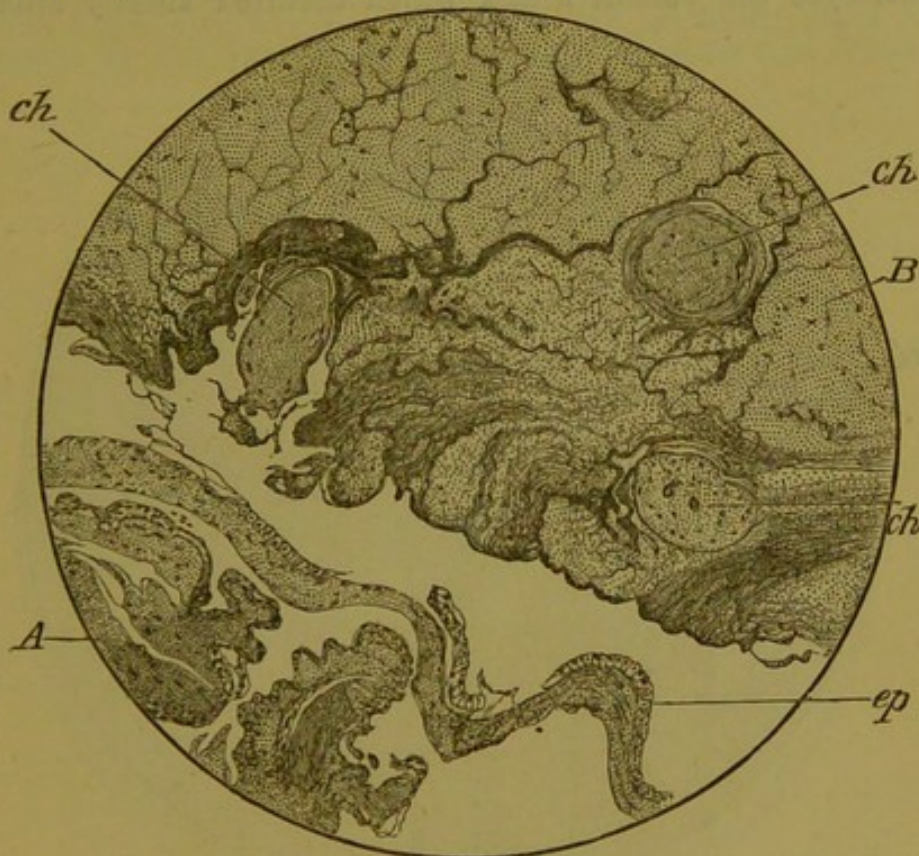


Fig. 3.—Section through wall of right tube and clot adherent to it. A, wall of tube; *ep*, epithelial lining of plicæ; B, clot; *ch. ch. ch.*, remains of chorionic villi.

villi (*ch, ch, ch*), two, as indicated in the drawing, lying close to the tubal mucosa, the third lying deeper. Fig. 4 represents a section through the nodular body in the centre of the clot. Two large villi, *ch, ch*, are seen imbedded in the clot amidst fibrinous shreds. Thus this body was merely a portion of the clot, and not an apoplectic ovum. The appearance of the chorionic villi is characteristic. They are far too large to be processes of the tubal plicæ, and were found in a portion of the tube where no such processes exist.<sup>4</sup> Fig. 5 repre-

<sup>4</sup> Compare Heinz's drawings of normal chorionic villi in his "Untersuchungen ueber den Bau und die Entwicklung der menschlichen Placenta," *Archiv f. Gynäk.*, vol. xxxiii. Walter (Zur Kasuistik der Hæmato-salpinx, *Inaug. Dissert.*, Giessen, 1890) rightly warns us against taking almost structureless fibrinous deposits for chorionic villi. If we examine tubes full of blood in a hurry and prepare sections carelessly we are certain to discover imaginary villi.

sents a section from the tube and clot in Dr. Lowe's specimen, already mentioned. Large chorionic villi are seen in abundance. It has been noted that an ovum was found in this case. I have examined several sections through maternal and foetal tissues in early normal pregnancy, and noted that the villi, though far more perfect, well defined, and closely packed together, strongly resembled the bodies seen in the sections just described. In short, the microscopic appearances afford strong evidence that very early tubal gestation existed on the right side. It was arrested, I believe, by tubal abortion—a subject upon which more will presently be said.

I maintain that in this case an exploratory operation was not only justifiable but imperative, after I witnessed with my own eyes the violent attack which occurred shortly after

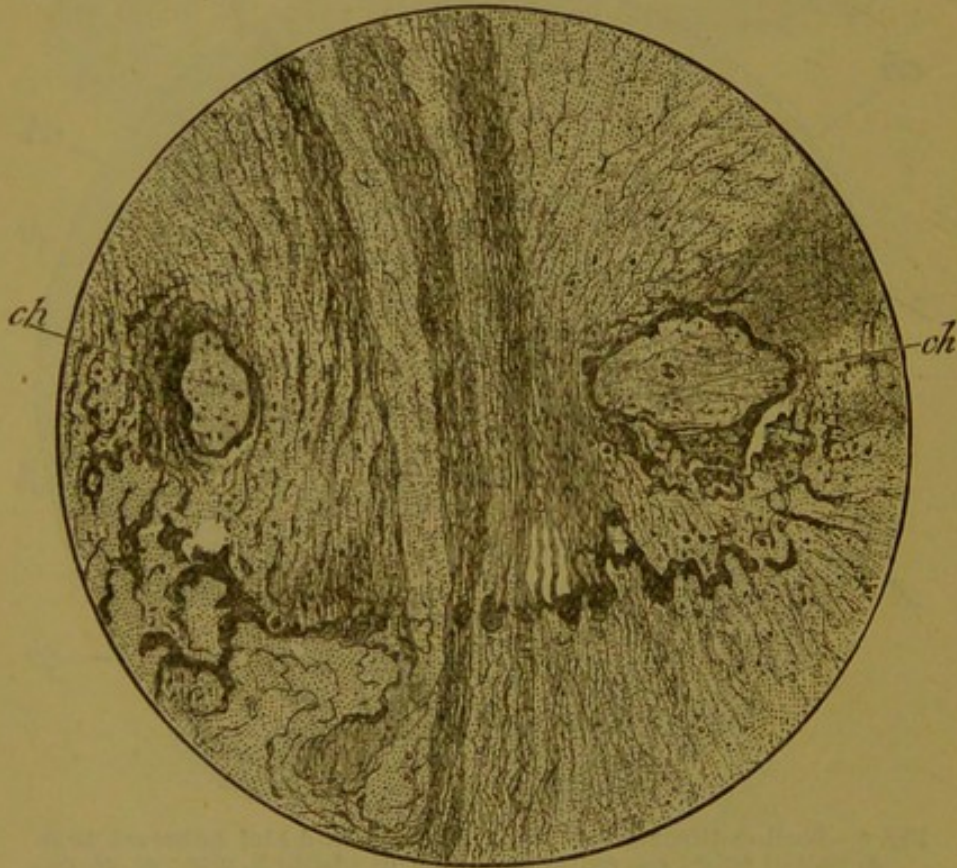


Fig. 4.—Section through the nodule found in the centre of the clot (B, Fig. 3) far from its attachment to the tubal wall. *ch. ch.*, chorionic villi.

the consultation. My only regret is that circumstances delayed the operation. I do not deny that in some instances the acute symptoms disappear after prolonged rest; but it cannot be doubted that many cases of ruptured tube prove rapidly fatal. Dr. Lowe's patient died within nine hours after an attack of abdominal pain which commenced during defæcation. In a case under the care of Dr. Landau<sup>5</sup> sudden death, with all the symptoms of internal hæmorrhage, occurred in a patient believed to be from four to five weeks pregnant. The tube was ruptured. Dr. Gunsser<sup>6</sup> describes

<sup>5</sup> Abel, Zur Anatomie der Eileiterschwangerschaft, *Archiv f. Gynäk.*, vol. xxxix, p. 3, 1891.

<sup>6</sup> Ueber einen Fall von Tubarschwangerschaft, *Centralblatt f. allgem. Patholog.*, March 15th, 1891.

a fatal case of ruptured tube, where the patient sank before her physician arrived at the house. In my own case, the hæmorrhage from the dilated ostium of the right tube was in itself dangerous, even if independent of the hæmorrhage from the rent in the left tube. The question of gestation is not of paramount importance in respect to operation, for the bleeding out of the ostium of the unruptured tube, or the rupture of the tube and consequent hæmorrhage, is the cause of death, in whatever manner the primary hæmorrhage or rupture may occur.

What is hæmatosalpinx? The question may be discussed, as that term is included in the heading of this memoir. Until lately it was understood to signify an obstructed Fallopian tube filled with blood. This definition included cases of atresia of the vagina and uterus where menstrual blood

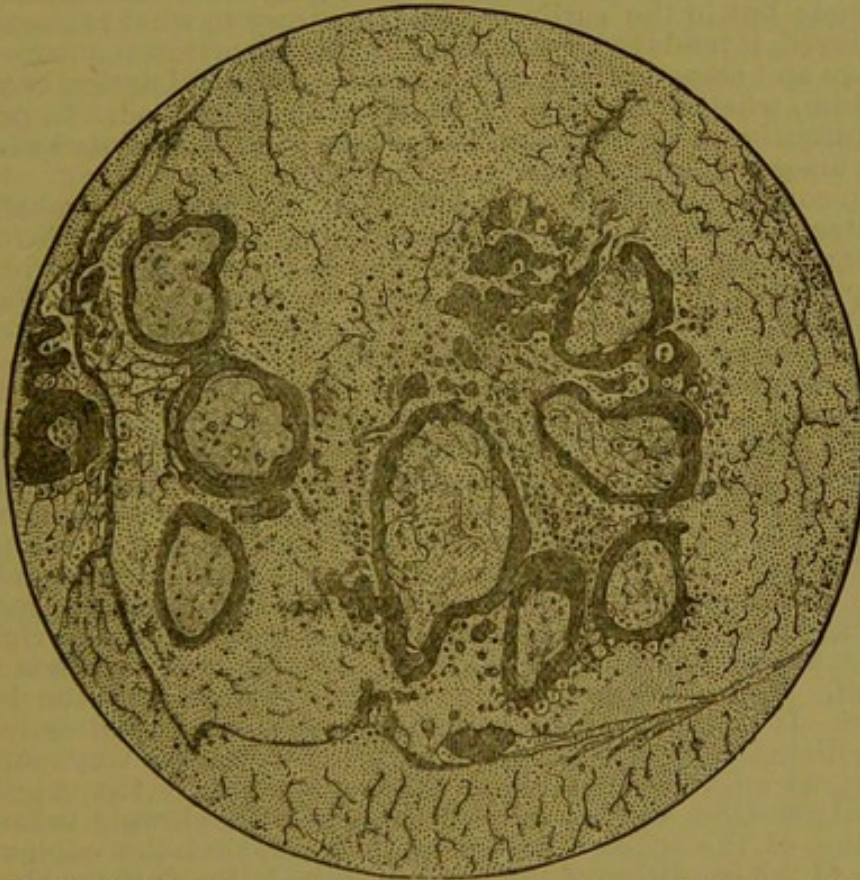


Fig. 5.—Section through clot adherent to tubal wall in Dr. Walter Lowe's case of early tubal gestation where an ovum was found, showing numerous chorionic villi. (Figs. 3, 4, 5 represent sections as seen under  $\frac{1}{2}$ -inch objective, Beck.)

accumulated in the tubes. More strictly, it was, and should be, confined to cases where a kind of apoplexy of the tube occurs in the course of catarrhal salpingitis, or even during menstruation,<sup>7</sup> or to cases of hæmorrhage in an old pyosalpinx.

The affection described by Dr. W. S. A. Griffith<sup>8</sup> and others

<sup>7</sup> Pozzi, *Traité de Gynécologie, Clinique et Opératoire*, 1890, p. 644. Note that in the illustration (Fig. 339) a small nodular body is represented, and M. Pozzi describes it as "clot or embryo." It closely resembles the similar body seen in my case.

<sup>8</sup> *Hæmatoma and Hæmatosalpinx*, *Trans. Obstet. Soc.*, vol. xxix, p. 397. Dr. Griffith has prepared two fine specimens illustrating this condition (Mus. St. Bartholomew's Hospital, 2934 A and B).

under the name of "hæmatosalpinx" comes under a totally different class. It is the acute idiopathic menorrhagia which sometimes proves fatal in young girls; the blood runs through undilated, unobstructed tubes. The source of the hæmorrhage is uncertain; the uterus as well as the peritoneum becomes filled with blood.

Many living authorities believe that most of the more acute cases of ruptured hæmatosalpinx are early extrauterine gestations. Bland Sutton and Veit,<sup>9</sup> whilst admitting that they have traced hæmatosalpinx in one or two cases to partial torsion of a tube already dilated from other causes, nevertheless both maintain that extrauterine gestation is the most usual primary condition in hæmatosalpinx. As a rule, the ostium is patulous in the more acute cases, as I demonstrated in a series of specimens which I recently prepared for the College of Surgeons.<sup>10</sup> Late in tubal pregnancy the ostium is closed; but in the earliest weeks, contrary to what is usually believed, it tends to be patulous. In tubal abortion the hæmorrhage and escape of the ovum cause further dilatation of the ostium, whether the tube be ruptured or unharmed. In pure salpingitis, as we all know, the ostium is usually closed when the disease is either chronic or very acute.

In conclusion, it may be asked, What was the most probable course of events in my own case? The attack a year before operation appeared clinically similar to the attack after which I operated; in both instances the period was overdue. Very probably, then, there was a tubal abortion in 1890. The seat of disease was, no doubt, the right tube. Tubal abortion very early in pregnancy need not necessarily spoil the tube for its functions nor prevent subsequent pregnancy in its canal.<sup>11</sup>

The ostium is not closed in early tubal gestation, the ovum distends the tube to a very trifling extent, and above all the tube is not ruptured. Thus the right tube most likely recovered in my case, and once more became the seat of ectopic gestation. The state of the left tube is harder to explain. The well-developed corpus luteum in the left ovary suggests migration of its former ovum across the uterus into the right tube, where microscopic evidence of early gestation was at hand. There was no evidence of early gestation in the left tube. It is true that the infundibulum close to the ostium was distended and torn, and that the ostium was very patulous, as on the right side; this is apparently the rule in tubal abortion, and is rarely, if ever, seen in chronic inflammation of the tubes. I suspect, however, that the explanation of the condition of the left tube is as follows: Some blood escaped from the right tube into the uterus, and thence into the left tube; it leaked from the ostium, which became abnormally patulous, but coagula formed in the infundibulum, blocked that part of the tube, and ultimately caused its rupture. Primary hæmorrhage inside the left tube is also possible, the mucous membrane becoming congested through adhesions which interfere with the circulation of the vessels supplied to the tube.

<sup>9</sup> *Centralblatt f. Gynäk.*, May 30th, 1891, p. 444.

<sup>10</sup> Pathol. Series, Nos. 4584E, F, H, and 4695C, described in Catalogue, Appendix IV, 1890.

<sup>11</sup> Long-standing disease of the appendages existed, and was no doubt the cause of abnormal gestation, but want of space forbids me to discuss the theories of Mr. Lawson Tait and others on the precise relation between salpingitis and tubal pregnancy.

Tubal abortion, a condition practically unknown but a few years since, is now well recognised, owing to the exertions of German pathologists. It includes cases where hæmorrhage into the membranes blights the ovum and bursts the tube (Bland Sutton), and cases where the ovum is projected, entire or damaged, out of the ostium of the unruptured tube into the abdominal cavity (Veit, Werth, Zedel). The second class throws a new light on many obscure cases relating to ectopic pregnancy. Certain authorities believe that all ectopic gestations are primarily tubal, and with them I feel inclined to agree. Museums contain numerous specimens of early tubal gestation where a foetus and its membranes are to be seen inside a swelling of the tubal canal. There is no need of proof that the ovum lies in the tube, just as at Bournemouth we need not prove the existence of the sea. On the other hand, in the specimens of alleged abdominal and ovarian gestation, pregnancy is usually advanced, and the anatomical relation of the parts hopelessly confused. Ingenious arguments may lead us to think that it is possible that the ovum may have developed outside the tube. In these specimens, however, we cannot show that the foetal sac has been from the first distinct from the tube, whilst in tubal gestation we can see at a glance that the sac is clearly a part of the tube.

Mr. Tait explains non-tubal pregnancies as a result of rupture of a primary tubal sac into the folds of the broad ligament and subsequent development in the direction of the abdomen. Very possibly some abdominal pregnancies develop in that manner; the peritoneal relations of the sac in some cases tend to prove the theory. The phenomena associated with tubal abortion allow of an easier explanation of abdominal and ovarian pregnancies. The ostium, as has already been noted, is very patulous in early tubal gestation. Let the process of extrusion be slow, and it is easy to conceive how the membranes of the ovum may have time to acquire vascular adhesions to neighbouring structures.<sup>12</sup> The ovum, growing larger, would in time entirely disengage itself from the tube. In early tubal gestation the tube does not always show a well-defined, abrupt, and spherical dilatation at the part where the foetal sac lies. It is uniformly swollen, so that after the escape of an early ovum it may soon collapse and leave no sign that a primary gestation has occurred. Hence the report "tubes normal" in an account of a case of alleged primary abdominal gestation is no evidence that neither have held an early ovum. There is a strong reason for us to agree with Zedel<sup>13</sup> in believing that early tubal abortion is not rare, being a frequent termination of extrauterine gestation and a common explanation of pelvic hæmatocele.

<sup>12</sup> Dobbert's case, where a foetal sac lay in Douglas's pouch, can be explained in this manner. The tube opened into the sac, which suppurated and discharged into the rectum.—Veit, *Centralbl. f. Gynäk.*, March 28th, 1891, p. 258.

<sup>13</sup> *Zeitschrift f. Geburtsh. u. Gynäk.*, vol. xxi, part ii, 1891, p. 498.

*Lukesch of Prague, Centralbl. f. Gynäk.*  
no 5. 1903. p 150. g & orig. Paper and  
Wochenchr. 21 & 31. 1902. tubal preg.  
arises to obstruction of polypus in uterus  
its pedicle was attached to the internal end  
of the tube (involved).

