Haematoma and haematocele : a study of two cases of early tubal pregnancy / by Alban Doran.

HÆMATOMA AND HÆMATOCELE

A STUDY OF TWO CASES OF EARLY TUBAL PREGNANCY

BY

ALBAN DORAN, F.R.C.S.

SURGEON TO THE SAMARITAN FREE HOSPITAL.

Read May 4th, 1904

[*From Volume XLVI of the 'Transactions of the Obstetrical Society of London'*]

London

PRINTED BY ADLARD AND SON

BARTHOLOMEW CLOSE, E.C.

1904

HÆMATOMA AND HÆMATOCELE; A STUDY OF TWO CASES OF EARLY TUBAL PREGNANCY.

By Alban Doran, F.R.C.S.,
SURGEON TO THE SAMARITAN FREE HOSPITAL.

(Received January 11th, 1904.)

(*Abstract.*)

It is generally taught that hæmatocele associated with interrupted early tubal gestation demands operation whilst a hæmatoma or extra-peritoneal hæmatocele under the same conditions will subside if the patient be kept at rest. Two cases which do not support this teaching are related and discussed at length. In the first, the patient passed clots over two months after the last period, pelvic pain set in and a swelling could be detected in the right fornix and iliac fossa. A week later a decidua was expelled, then a mass with all the characters of a pelvic hæmatocele developed and became harder and smaller during prolonged rest. Menstruation was re-established within two months. In the second case the patient was seized with vomiting and pain in the right iliac fossa when a period was due. Four days later uterine hæmorrhages set in. A swelling could soon be defined above the pubes, its lower limits formed a convex mass behind the cervix, simulating a hæmatocele in Douglas's pouch. This swelling steadily increased in size. A month after the beginning of the symptoms a decidua was passed, eleven days later acute internal hæmorrhage occurred. The author operated and discovered a very large hæmatoma containing four pounds of old clot. The uterus, appendages, and pelvic peritoneum were entirely above the clot and formed its capsule. The right tube had burst between the folds of the broad ligament so that a hæmatoma developed and ultimately leaked into the peritoneal

cavity which contained a little recent clot. The uterus and appendages were removed with the clot, the cervix was saved. A show of blood was seen twice within seven months after the operation. The nature of the first case was evident, there was a bleeding tubal mole on the right side and a pelvic hæmatocele as its consequence. The lower part of the hæmatocele formed a convex mass in Douglas's pouch. According to Taylor and other authorities this condition rarely ends in spontaneous cure, but Veit, Champneys, Lockyer, and Gossmann are of a contrary opinion on the ground of clinical experience, and this case, like several others recently under the author's care, was cured by prolonged rest. The author admits, however, that convalescence is usually more rapid when the tubal sac is removed, although operation involves cicatrices and retained ligatures. In the second case it was proved at the operation that there had been originally no hæmatocele whilst a great quantity of blood escaped between the folds of the broad ligament. The blood had raised up the peritoneum of Douglas's pouch which encapsuled its upper part, as in the case of a large cyst or fibroma of the broad ligament. The convex mass behind the cervix was therefore not in Douglas's pouch, which did not exist, but represented the lower limits of the entirely subperitoneal hæmatoma. The acute symptoms were caused by secondary rupture into the peritoneum. The hæmatoma was the homologue of the posterior tubo-ligamentary pregnancy of Taylor, but the products of conception had been completely destroyed. The secondary rupture into the peritoneal cavity was the homologue of Taylor's fourth class of tubo-abdominal pregnancies. The author suspects that in other cases a hæmatoma behind the cervix has been taken for a hæmatocele in Douglas's pouch. Hence hæmatoma is probably not so rare a result of interrupted extra-uterine pregnancy, and not so amenable to expectant treatment as is generally taught, its dangers being underrated. Hæmatocele is certainly very common and its perils have been apparently overrated. Careful clinical study of these conditions is yet needed.

The question of operative or expectant treatment in early extra-uterine pregnancy is of high importance, but remains unsettled. For authorities are not agreed as to

what is the best course to pursue when hæmorrhage sets in and stops the early abnormal pregnancy. Hæmatocele, the result of intra-peritoneal hæmorrhage, may undoubtedly subside as has been demonstrated by the experience of authorities to whom further reference will be made, and by a case in my own practice presently to be related. A majority of gynæcologists, however, hold that hæmorrhage into the peritoneal cavity even when due to a bleeding mole and not to rupture of the tubal sac demands operation. On the other hand, all authorities appear to admit that hæmatoma, the result of hæmorrhage into the pelvic connective-tissue outside the peritoneal cavity, is far more likely to be absorbed, and therefore does not as a rule render operative interference urgent. Even Taylor who insists that cases of intra-peritoneal hæmorrhage from a ruptured tube or tubal mole rarely recover without operation,* at the same time admits that when the tubal sac ruptures into the connective-tissue space below the peritoneum a hæmatoma is the result, and in some instances the pressure and disturbance caused by this collection of blood is sufficient to stop the progress of the misplaced pregnancy. When this is the case, the hæmorrhage is slowly absorbed, and if the pregnancy be early and abortive, the products of conception undergo absorption also.†

Roughly speaking, then, we are taught by certain living writers of repute that a hæmatocele implies great peril and demands operation, whilst it is generally admitted that a hæmatoma ‡ represents a far less dangerous ending to an interrupted tubal pregnancy, and will subside if the patient be kept at rest.

The two following cases are of some interest because they do not support this teaching. For in the first there

* 'Extra-Uterine Pregnancy,' p. 148.

† *Loc. cit.*, p. 64.

‡ That is to say, subperitoneal hæmorrhage, as defined above. The term "tubal hæmatoma" applied to hæmorrhagic mole is confusing, and is therefore not employed in this communication.

were all the signs of tubal abortion with hæmorrhagic mole and pelvic hæmatocele, yet the patient recovered and the hæmatocele underwent absorption. In the second, a hæmatoma developed, but though the patient was kept at rest in hospital, the effusion of blood did not subside. On the contrary, it ruptured its capsule so that intra-peritoneal hæmorrhage occurred, rendering immediate operative interference needful.

Case 1.—Bleeding Tubal Mole and Pelvic Hæmatocele.

Clots passed over two months after last period, with pelvic pain and swelling in right fornix and iliac fossa; decidua passed a week later, a mass with the characters of pelvic hæmatocele then developing and gradually becoming harder and smaller. No operation; prolonged rest. Period re-established within two months, becoming regular.

E. H—, aged 24, was admitted into my wards in the Samaritan Free Hospital on February 11th, 1903, for symptoms indicating ectopic gestation.

She had been married for over six years, and had been twice pregnant. The first child was five years and nine months old, and was delivered at the seventh month by forceps; the second was one year and eight months old, and was delivered by forceps at term. Both children were reared, and the puerperium was uncomplicated after both labours. At the age of thirteen, this patient had been under treatment for anæmia, but she had never suffered from any serious illness.

The catamenia recommenced and continued regular during lactation after both labours, but the second child was only suckled for six weeks. There was scanty show every third week with much pain.

The last period occurred in the first week in December, 1902. On February 7th, 1903, over two months later, some clots passed, and there was much pelvic pain. Hæmorrhage continued, especially at night. Dr. Williams, of Connaught Street, was called in on February 11th, and

found the patient in severe pain, with a temperature of 101°, and a pulse of 120. She complained of much bearing-down pains at night, and was at once sent to the Samaritan Hospital.

The patient was very anæmic and thin, but quite free from cachexia or depression of spirits. I detected much distension in the right iliac region with tenderness on palpation and resonance on percussion. No hard body could be defined. The uterus was almost fixed, the right fornix was occupied by a tender mass of about the size of a walnut, hardly encroaching on Douglas's pouch but connected with the swelling in the corresponding iliac fossa.

On February 13th, the distension was more marked, very resonant and much less tender. The uterus was more fixed and displaced forwards, the mass in the right fornix larger. In the afternoon the decidua, which I now exhibit, was passed. The temperature was 100·2°, the pulse 132. There was absolutely no shock nor pain. The passage of the membrane afforded relief and I decided to wait for awhile before operating.

On the morning of February 14th, I detected a firm mass in the right iliac fossa, cup-shaped with the convexity upwards and extending across the middle line. The shrinking of the dimensions of this mass was very appreciable day by day. By the 20th it was quite hard and round; the show, for the first time since admission, was absent. By March 2nd the pelvic condition was more evident than before, for there was a firm insensitive convex body in the posterior fornix continuous with the mass above the right groin. The uterus was drawn up in front of the mass, the cervix lying against the pubes.

The whole mass steadily contracted, and on March 23rd, when I discharged the patient, it projected three inches above the pubes, lying more in the middle line than before. On April 6th I had an opportunity of examining her. The uterus now moved with a convex mass which occupied the posterior and right fornices. The fundus

could be clearly defined and the upper part of the mass did not extend above the level of the fundus. On April 9th a true period with molimen occurred, lasting five days, and the show was rather free. A little powdery, brownish blood was occasionally discharged until the end of April. Then the period became regular; by the end of June the mass behind the uterus had greatly diminished and the patient was in excellent health. I noted distinct pulsation at the base of the right broad ligament, as is observed in a tubal pregnancy still in progress. At the end of July the anæmia had almost disappeared and the pelvic pains had passed away. I afterwards heard that the patient was in very good health in October. X.

This case was to all appearances an instance of bleeding tubal mole* on the right side and development, subsequent to the expulsion of the decidua, of a pelvic hæmatocele. That hæmatocele was cup-shaped above and formed inferiorly a convex mass projecting into the posterior vaginal fornix. In other words, its lower part really occupied Douglas's pouch (Fig. 1). This relation of the clot is of importance in association with the next case, where also a convex mass projected into the posterior fornix, but did not occupy Douglas's pouch, since that serous fold had been completely displaced by extra-peritoneal hæmorrhage.

I have repeatedly verified this combination of tubal mole and pelvic hæmatocele on the operating table; indeed,

* I need not dwell on the pathology of this condition on which so much light has been thrown by Cullingworth, Bland-Sutton, Lockyer, Handley, and others, as this communication deals with the question of intra- and extra-peritoneal collections of blood rather than with tubal mole. I may as well note, however, that whilst in rupture of a tubal sac immediate, free, and dangerous hæmorrhage is the rule, in tubal abortion it is said to be the exception, yet Gottschalk ('Zentralbl. f. Gynäk.,' No. 4, 1903, p. 113) reports a case of free hæmorrhage at the commencement of a tubal abortion. Is this exceptional condition so rare, and is the rule about hæmorrhage immediately on the rupture of the sac so invariable? I suspect not. The question is interesting, as I am discussing another theory about rule and exception in cases of tubal pregnancy.

X. Child born early in April 1907. weaned in mid June. P.d came on, July 19, very free show. Ex.[illegible] July 22. /07 Uterus movable, powdery blood came away from os. Douglas's pouch quite free. Rt ovary could be felt on [illegible]

it must be familiar to all well versed in the surgery of the female pelvis. Masses of clot are discovered concealing the pelvic viscera. The uterus, the unaffected appendages and the conspicuous tubal mole come into view when the clot is removed. Below and behind Douglas's pouch is found full of blood, fluid or otherwise. Thus the effused blood, save that which is still inside the tubal mole, lies outside the uterus and appendages which it covers up

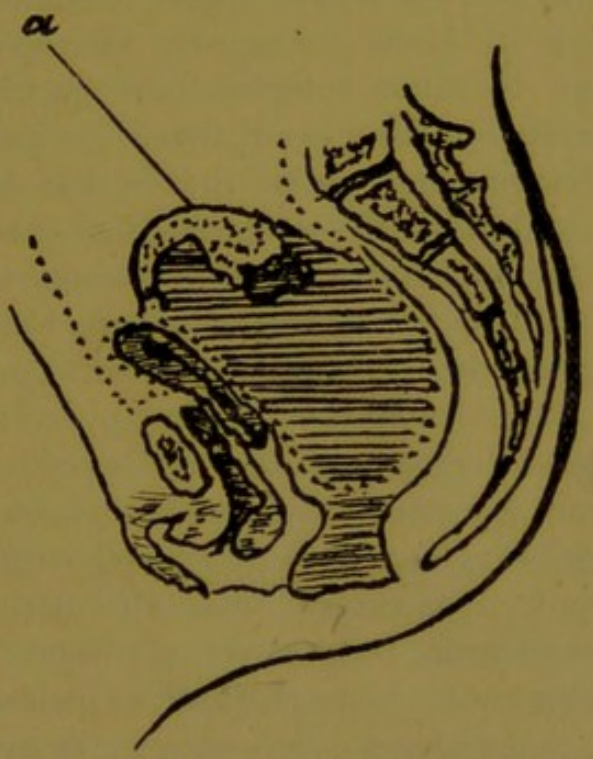

FIG. 1, CASE 1.—The dotted line shows the peritoneum of Douglas's pouch in normal position. The clot fills the pouch. (*a*) Fallopian tube containing a tubal mole which caused the hæmorrhage.

more or less completely. In the next case, on the contrary, the uterus, tubes and broad ligaments completely covered the great collection of effused blood, only a small amount of which was beginning to escape into the peritoneal cavity by leakage from the broad ligament.

Taylor, whose demonstration of intraperitoneal hæmatocele is well-known for its clearness, teaches that "in women it is almost always caused by tubal pregnancy, sometimes by rupture of the tube and sometimes by bleeding from the fimbriated end without rupture. *The latter*

is the more common cause of intraperitoneal hæmatocele, and this bleeding from the unruptured tube is usually set up by the presence of a hæmorrhagic mole within it." *

Turning to treatment, the opinion of the same authority on that important matter is not so generally accepted as is his interpretation of the morbid anatomy of the condition in question. He maintains that an operation is always needed in cases of rupture of the tube and tubal mole (*loc. cit.*, p. 148) where these hæmatoceles develop, the collection of blood being, in his opinion, "almost always" due to those complications (p. 65). He states that "occasionally, here and there" a patient recovers without operation, and admits that he has seen five or six such cases (p. 148). He declares that "natural cure is rarely satisfactory and that it contrasts somewhat unfavourably with operative methods" (p. 149).

Many gynæcologists follow Taylor's principles, but experience has shown that he has overrated the perils implied by the development of a hæmatocele. I have had under my care a considerable number of cases during the last few years that have done very well without operation, though I, as well as certain more thorough advocates of expectant treatment, must make allowance for errors of diagnosis, the more so as I shall explain how another variety of hæmorrhage in ectopic gestation, namely hæmatoma, may be mistaken for hæmatocele.

I admit that convalescence is without doubt more rapid after operation, but in my cases of spontaneous recovery the patients remain perfectly comfortable, with no abdominal cicatrix and with no ligatures on stumps, complications always to be dispensed with if possible. But several authorities are even more conservative than myself. My colleague, Dr. Lockyer, has published a valuable critical review on this question. (†) Champneys'

* *Loc. cit.*, p. 33.

† "The Conservative or Expectant Treatment of Extra-Uterine Pregnancy," 'Journ. of Obstet. and Gynæc. of the Brit. Empire,' vol. ii, p. 173. See also, for a recent instructive discussion on the same theme,

statistics are familiar to us all,* but Lockyer also dwells upon the opinion of Veit. That gynæcologist lays down a principle in direct contradiction to Taylor's teaching. "We cannot assert," says he, "that when the ovum is dead dangers are absent. We can, however, state that subsequent to death of the ovum a favourable termination is much more probable. *These cases will mostly recover without help.*" Lockyer himself concludes that the conservative treatment of ectopic pregnancy in the earlier months has established for itself a secure position in modern gynæcology. It is specially satisfactory in the treatment of tubal mole and diffuse hæmatoceles. Gossmann also believes in the frequency of spontaneous cure.†

When we turn to hæmatoma, sometimes called extra-peritoneal hæmatocele, Taylor differs from many of us as to its relation to ectopic gestation. He demonstrates how a tubal sac may burst so as to discharge the ovum into a space which it makes for itself by forcing apart the layers of the broad ligament. In consequence, an anterior or posterior tubo-ligamentary pregnancy develops. Taylor's theory is generally accepted, being based on sound anatomical and pathological evidence, and in fact we all admit that the ovum may lie between the layers of the broad ligament. That being the case we must further allow that blood from a ruptured tubal sac may also force itself into the broad ligament, in other words it will form a hæmatoma. Nevertheless, Taylor teaches that hæmatoma of the broad ligament is only in the minority of cases due to tubal pregnancy (*loc. cit.*, p. 65).

I am of opinion that hæmatoma is more frequently the result of extra-uterine pregnancy. In the case which

Gustav Klein, "Operiren oder Nicht-Operiren bei Eileiter-Schwangerschaft und Haematocele?" 'Monatsschr. für Geb. u. Gyn.,' December, 1903, p. 897. The conflicting evidence of Klein and Gossmann deserved consideration.

* "A Contribution towards the Study of the Natural History of Tubal Gestation, illustrated by a Series of Seventy-five Original Cases," 'Journ. of Obstet. and Gyn. of Brit. Empire,' vol. i, p. 585.

† Gustav Klein, *loc. cit.*

I will now relate the extra-peritoneal position of the clot and displacement of the pelvic peritoneum were made very manifest at the operation. There was a source of fallacy which led me to suspect before the operation that the clot lay in Douglas's pouch. I cannot help thinking that many cases of hæmatoma have thus been diagnosed as hæmatocele.

CASE 2.—HAEMATOMA FOLLOWING RUPTURE OF TUBAL SAC.

Pain in right iliac fossa and vomiting when period was due, four days later hæmorrhages and swelling above pubes steadily increasing and forming below a convex mass simulating a hæmatocele. Decidua passed over a month after beginning of symptoms—eleven days later acute internal hæmorrhage; operation, hæmatoma containing four pounds of clot discovered, uterus, appendages and pelvic peritoneum forming its capsule, right tube opening into hæmatoma which leaked into peritoneal cavity. Removal of uterus, appendages and clot; recovery.

A. B—, aged 31, was admitted into my wards in the Samaritan Free Hospital on March 14th, 1903, with symptoms indicating ectopic gestation.

She had been married eleven years, and her first pregnancy ended normally two years after marriage. Two years later, when in the seventh week of her second pregnancy, she received a blow in the eye and aborted; the curette was used in the Queen's Hospital, Birmingham, shortly afterwards. The third pregnancy ended one year and a half later at term; the fourth also terminated normally, on March 23rd, 1902, but hæmorrhages occurred during the puerperium and lasted for eleven weeks, when Dr. Davidson, of Shepherd's Bush, plugged the uterus and the bleeding ceased. The child had died in the fourth week.

The catamenia returned and were regular until January 14th, 1903, when free show appeared, lasting for four or five days. A fortnight later the patient

suddenly "felt very languid." On February 15th, sharp pain was felt in the right iliac fossa, and she vomited twice. On the 19th hæmorrhages set in; they were slight, but the pains increased. Dr. Davidson kept her at rest, and on March 8th detected a lump above the pubes. She was seen a few days later by Dr. Lockyer, who sent her into my wards, having diagnosed ectopic gestation.

The patient, on admission, was slightly anæmic; she had been slightly so for several months. The abdomen was distended with flatus and very tender to touch. A firm deposit could be felt in the hypogastrium, its upper limits lay within three inches of the umbilicus, and the blunt-edged fundus of the uterus could be defined high on its anterior surface.

On vaginal examination, I detected a big, firm mass uniformly convex, in the posterior fornix, which made me suspect that it must be in Douglas's pouch, a hæmatocele in fact; but it proved, as will be shown, to be extra-peritoneal. The cervix was small and pushed upwards and forwards. Very distinct pulsation could be felt in both lateral fornices.

The temperature on admission was 102° in the mouth, at the end of a week it dropped to 99°, then it rose to 100° at night and never fell to normal; shortly before the operation it was 100·2°.

Three days after admission, on March 17th, I found that the decidua * which I now exhibit, had been passed on the previous night. There was great trouble from constipation, and it was not easy to introduce an enema tube as the mass pressed on the rectum.† A long, shreddy, shaggy clot was passed on the 18th. The bowels were at length opened by aperients, and the patient fared better for a few days.

On the evening of March 28th, a clot as big as a walnut was passed, and a few hours later violent pains,

* My thanks are due to my colleague, Dr. Lockyer, for examining and mounting the deciduæ from these two cases. They form very instructive specimens, & are now in his private museum

† This symptom would favour the diagnosis of hæmatoma.

* See "Decidua in Early Ectopic Pregnancy" Brit. Journ. Obst. Vol 63 (Jan. 1906) p. 109

"like labour" as the patient described them, set in. At 6 a.m. on the 29th, I was called up and found the patient in a state of collapse with a very rapid, feeble pulse. The swelling was distinctly larger and much more tense. There could be no doubt that internal hæmorrhage was taking place.

From the first, ectopic gestation seemed very probable, and the discharge of a decidua on the 17th made the patient's condition yet more clear. There was no evidence of fresh hæmorrhage when the decidual membrane came away, so I thought that the hæmatocele as it seemed to be, would gradually disappear. Several large hæmatoceles in my own practice have become absorbed. When the acute symptoms set in, I concluded that there must be fresh intra-peritoneal hæmorrhage, and in order to arrest it I operated, with the assistance of Dr. Lockyer, Dr. Belfrage administering gas and ether.

The pelvis was elevated throughout the operation. I made a free incision and found that the hard mass was the uterus drawn high up on the anterior aspect of a convex swelling, together with a greatly distended right Fallopian tube. The left tube, also much dilated, ran down the left border of the swelling. The great omentum adhered firmly to the fundus and to the right tubal sac. A small collection of recent clot lay behind the omental adhesion in front of adherent small intestine and descending colon. These adhesions were detached.

I laid open the right tube. About four ounces of old, dry, brown clot were found in its canal and then a big dark swelling came into view, forming as it were the floor of the dilated tubal cavity. I cut into the thin membranous tissue consisting of organised clot which formed the wall of the swelling, and then a great mass of coagulum appeared, more recent than that which had filled the right tube. I removed no less than four pounds of this clot, which filled the whole pelvis.*

* No trace of a fœtus could be detected. The pregnancy had been interrupted at a very early stage.

The patient's condition at this stage was very serious, and as the precise source of the hæmorrhage could not be determined, I tied both ovarian vessels, turned down an anterior flap of peritoneum from the lower part of the uterus, secured the uterine vessels, and amputated the uterus through the upper part of the cervix. That organ then came away with both tubes and ovaries, and with the great dome of membrane which had capped the mass of clot. That displaced membrane consisted of the opened-up broad ligament and peritoneum which had once formed Douglas's pouch.

The pelvis was drained with iodoform gauze and the abdominal wound closed except at its lower angle.

Over one pint of saline fluid was injected under the breast during the operation, and a saline enema was administered. After the abdominal wound had been closed a pint and a half of saline fluid was injected into the left median basilic vein.

When the patient was put back to bed her condition was very unfavourable. At the end of three-quarters of an hour she seemed a little stronger, though there was no pulse at the wrist. Brandy and digitalis were given; enemata and hot water could not be retained. At noon the temperature had risen to 105·2° and there was a rigor. I observed marked facial spasms which lasted for several minutes. Half an hour later the pulse could be felt. By 6 p.m., after free administration of digitalis and brandy, the temperature had fallen to 103°; the pulse was 150, but distinct and regular. At 10 p.m. temperature 101·6°, pulse 138, and the patient took barley water. The absence of vomiting was remarkable.

Twenty-four hours after the operation, the patient seemed much stronger and flatus passed naturally. I removed the gauze, and little or no oozing followed; a rubber tube was left in the lower angle of the wound for a few days. The cavity was washed out with antiseptic solutions for about four weeks, some sloughy tissue coming away. The anæmia was relieved by suitable

treatment, and the patient left hospital with a sinus in the lower angle of the wound four inches deep. The general health was good.

I last saw the patient on November 2nd, 1903. She had gained flesh and was much less anæmic. On August 9th, she noticed a show of blood which lasted for two days; on October 13th, a much more copious discharge set in and lasted for four days.* A little pus discharged from the sinus, which was 2½ inches deep. The long cicatrix of the abdominal wound was firm. On vaginal examination the cervix was found to be quite movable; the fornices were free.

This case was clearly an example of hæmatoma caused by rupture of a tubal sac, between the layers of the corresponding broad ligament. The accident must have occurred about February 15th and the ovum was destroyed, else a posterior tubo-ligamentary pregnancy would have developed. The hæmorrhage continued until at length the whole pelvic peritoneum was heaved up. That part which had formed Douglas's pouch became the superior and posterior part of the capsule which covered the great mass of clot (Fig. 2). The uterus and appendages were raised up with the anterior layer of the broad ligament so as to constitute the anterior part of the capsule. The lower part of the clot, free in the pelvic connective tissue, lay not in Douglas's pouch, but in its site, and could be detected by touch as a convex mass behind the cervix.

On the night of March 28th, nearly six weeks after the rupture of the tube, the capsule leaked a little posteriorly to its superior limits at the point of adhesion to the omentum. On this occasion there was sharp pain, such as has been noted in intra-peritoneal hæmorrhage,

* It is very doubtful if any ovarian tissue could have been left as both ovaries were easily removed with the body of the uterus. In oöphorectomy for the cure of uterine fibroids it was quite otherwise. I have discussed this question in the Harveian Lectures (Lecture II, 'Lancet,' 1903, vol. i, p. 415).

Halban disputes my conclusions — Die Krankheiten des Beckenbindegewebes 1906. p 61.

but the patient's sufferings must have been largely due to the tension of the capsule of peritoneum, a necessary result of the renewed hæmorrhage.

Had a fœtus escaped through a rent in the capsule, instead of a clot, then granting that the patient and fœtus had survived, a tubo-abdominal pregnancy of the fourth class according to Taylor (*loc. cit.*, p. 58) would have developod. Earlier writers believed that most

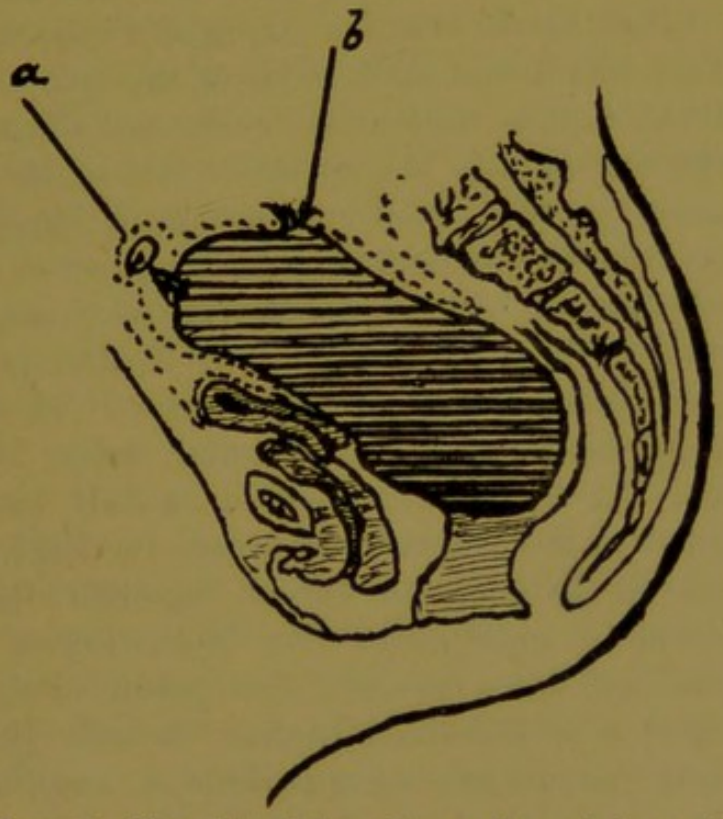

FIG. 2, CASE 2.—The dotted line shows the pelvic peritoneum completely displaced upwards by the clot. (*a*) Dilated right Fallopian tube which had ruptured into the parametrium; (*b*) site of secondary rupture into peritoneal cavity.

abdominal pregnancies were established in that manner, which implied that abdominal was secondary to tubo-ligamentary pregnancy (*loc. cit.*, pp. 47, 48).

The cause of the renewed hæmorrhage in Case 2 was not clear. Most probably it was due to straining at stool. There were no solid motions in the intestinal canal at the time, but on the contrary, looseness of the bowels following free purgation by sulphate of magnesia,

which had greatly relieved the flatulence. In order to hasten the escape of flatus and liquid motion, patients often strain at stool.

The most prominent physical sign, after the presence of a tumour in the hypogastrium, was the convex mass behind the cervix. A similar kind of swelling is to be detected when there is a pelvic hæmatocele and the blood in Douglas's pouch has coagulated; a tubal sac in the same position also forms a convex mass behind the cervix.* But there was no Douglas's pouch in this case, a fact which was made clear at the operation. All collections of clot as well as all cysts and fibroids which burrow thoroughly into the posterior fold of the mesometrium must, if they continue to grow, displace that portion of the peritoneum which constitutes Douglas's pouch so that it will lie on the top and back of the clot or tumour. This displacement of the peritoneum is very plainly seen when a large fibroid of the broad ligament is exposed and enucleated from its serous investment. I have demonstrated at full length this displacement in the Harveian Lectures for 1902.†

Taylor‡ in treating of broad ligament hæmatoma, observes that in some cases "by burrowing in front of the rectum low down in (*sic*) the pouch of Douglas it may produce a well-defined tumour behind the uterus that closely simulates intra-peritoneal swelling of a

* Taylor rightly lays stress on the fact that a swelling behind the cervix in these cases may be the gravid tube and not a hæmatocele or hæmatoma. For his view of the relation of the gravid tube to the hæmatocele see *loc. cit.*, p. 113, par. 10. This heaving up of Douglas's pouch has recently been noted by Savariaud when operating upon a case of hydatid cyst burrowing in and beyond the broad ligament. "J'essaie en vain de luxer la tumeur hors du Douglas; *elle soulève le péritoine pelvien en s'en coiffant.*" (The term is most expressive, the clot in my case was *coiffé* by the pelvic peritoneum.) See Savariaud, "Kystes Hydatiques du Ligament large et du Grand Epiploon," 'Revue de Gynéc. et de Chir. Abdom.,' November—December, 1903, p. 986.

† Lecture I, 'Lancet,' vol. i, 1903, p. 350, section, "The Surgical Anatomy of the Broad and Ovarian Ligaments."

‡ *Loc. cit.*, p. 65.

distended and adherent tube." But a broad ligament hæmatoma cannot be *in* Douglas's pouch, as it is essentially an extra-peritoneal condition. Taylor illustrates the above remarks by a drawing from Hart and Carter's work,* on inspecting it that author's meaning at once becomes clear. The clot is represented *behind* the posterior layer of Douglas's pouch, being in the case illustrated insufficient in bulk to heave up the whole pouch in the manner which I have already endeavoured to explain. Thus the relations of one form of small hæmatoma are proved by Hart and Carter's section, whilst the relations of an unusually large hæmatoma were made evident by the condition of the affected parts which I detected when operating on Case 2.†

Thus these two cases indicated in the first place that hæmatoma is not so rare a result of interrupted extra-uterine pregnancy as is generally taught, and that it may be mistaken for hæmatocele. Hæmatoma is, however, decidedly less frequent than hæmatocele, in relation to ectopic gestation. For the tubal sac is more likely to discharge its contents through the ostium into the peritoneal cavity or to burst into that cavity than to rupture between the folds of the broad ligament. When the broad ligament is opened up in this manner experience has proved that, instead of a hæmatoma forming, the ovum not rarely continues to develop, constituting the tubo-ligamentary pregnancy, anterior or posterior, of Taylor. There remains a considerable minority of cases where the ovum is destroyed and a true hæmatoma develops and displaces the pelvic peritoneum upwards after the manner of a tubo-ligamentary sac.

* *Loc. cit.*, fig. 27, p. 66.

† See Taylor, *loc. cit.*, fig. 29, p. 68, where a broad ligament pregnancy has already begun to heave up Douglas's pouch. As that author justly observes (p. 69), this illustration is "exceedingly simple and intelligible." Lawson Tait's well-known "jelly-fish," convex above, concave below, represents an intermediate or average type of hæmatoma.

In such a case the lower part of the hæmatoma, bulging behind the cervix, may be mistaken for a hæmatocele occupying Douglas's pouch, though in reality that pouch no longer exists, its peritoneum lying above the hæmatoma.

Secondly, the hæmatoma of extra-uterine gestation, even when developed early, is not so innocuous as compared with hæmatocele, as certain authorities are inclined to believe. The peritoneal capsule may yield so that dangerous intra-peritoneal hæmorrhage ensues.

Thirdly, there can be no doubt of the truth of the prevalent theory that hæmatocele is a very frequent result of interrupted tubal gestation. At the same time, whilst the dangers of hæmatoma have been underrated, the perils of hæmatocele have been exaggerated, at least as regards the earlier stages of ectopic gestation. The hæmatocele often signifies that the issue of blood from a tubal mole has permanently ceased, nor is it certain that the same may not be said of many cases of early rupture of the tube.

In conclusion, we must admit that the importance of faithful clinical study of extra-uterine pregnancy from its earliest recognisable stages cannot be over-estimated. There is much that we can safely teach, yet there remains more that we must learn about ectopic gestation, above all as to the relation of prognosis to treatment.

Woodbridge Williams "Intraperitoneal Hæmorrhage following Labour not associated with Lesions of the Uterus" Trans. Amer. Gynæ. Soc. 1904 [illegible] 33 cases tabulated and an original case.

Teller "Ueber Hämatombildung in Lig. latum bei spontaner Geburt und Beschaffenheit des Hämatoms in der Bauchhöhle" Zentralbl. f. Gynæ. Nr. 6 1910, p. 184.

PRINTED BY ADLARD AND SON, LONDON AND DORKING.