Clinical Remarks

ON

THE SYMPTOMS, DIAGNOSIS, AND TREATMENT OF TUBAL GESTATION IN THE EARLY WEEKS.

By WALTER TATE, M.D., F.R.C.P.,

OBSTETRIC PHYSICIAN TO ST. THOMAS'S HOSPITAL; GYNAECOLOGIST TO THE NATIONAL HOSPITAL FOR EPILEPSY AND PARALYSIS.

THE comparative frequency with which cases of tubal gestation are met with and the obscure nature of the symptoms in a certain number of the cases are sufficient reasons for making this interesting form of pregnancy the subject of a short criticism. In order to give some idea of the frequency of this disease, it may be mentioned that during the fourteen years—from 1892 to 1905—152 cases of tubal gestation were treated in the gynaecological ward of St. Thomas's Hospital. It would also appear that there is an increasing frequency of this form of gestation, for whereas there were only 55 cases during the first period of seven years, there were as many as 97 cases during the second period. In the large proportion of cases of tubal gestation, symptoms usually commence before the tenth week of pregnancy, the most common period being from the third to the eighth weeks. The onset of symptoms is usually an indication of some change taking place in the gestation sac. This may be due to haemorrhage occurring within the tube with the formation of a tubal mole, or the change may be the result of rupture of the tube wall, or haemorrhage—with or without escape of the ovum—through the outer end of the tube. With very few exceptions no symptoms occur until one or other of these accidents has taken place.

The group of symptoms which can be described as typical of this complaint are as follows: The patient, who has missed one or two periods, is suddenly seized with severe pain in the lower part of the abdomen, which may be accompanied by some faintness, and is followed by a haemorrhagic vaginal discharge. The patient probably goes to bed, but, as the pain soon subsides, she may get up in a day or two feeling fairly well. Soon after getting about again she has a second more severe attack of pain, with signs of faintness, and the nature of the case becomes evident.

Unfortunately, in many of the cases the symptoms are not nearly so definite, and a correct diagnosis is often difficult. Special attention must be drawn to two symptoms which are invariably present in cases of this kind. These are irregular haemorrhage and attacks of abdominal pain. Two other symptoms which are present in a large number of cases are missed or delayed menstruation, and signs of faintness and collapse accompanying the attacks of pain. In one case collapse may be a very prominent symptom; in another pain or haemorrhage may be the most marked feature of the case.

A few remarks must now be made about each of these symptoms. First, with regard to amenorrhoea, it may be said that whereas absence of menstruation is a most important and almost constant feature in cases of intra-uterine gestation, it is by no means a necessary sign of extrauterine gestation. The late Dr. Hamilton Bell, in an admirable analysis of a series of 88 cases of tubal gestation which occurred under his observation at St. Thomas's Hospital, found a distinct history of amenorrhoea in only 56 per cent. of the cases. In the remaining 44 per cent. the first symptoms occurred either in the interval between two menstrual periods or practically coincided with the onset of a period. The absence of amenorrhoea, therefore, must not be looked upon as any ground for excluding pregnancy in the tube. Attacks of pain, often recurrent, are invariably present. The pain is situated in the lower part of the abdomen, and is usually unilateral, and referred to the right or left ovarian region. It is generally severe, and often the patient will place her finger on the exact spot. Sometimes the situation of the pain is less definite, and in one case the patient referred the pain to the epigastrium. The pain in a certain number of cases is accompanied by vomiting and faintness. A rather

striking feature in some cases is that, although the patient may be seized with severe pain and some faintness, and may have to take to her bed, the pain may very quickly subside, and after a day or two she may be up and doing her work again, quite unaware that there is anything seriously wrong, till another more severe attack compels her to seek medical advice. The recurrent character of the attacks must be specially emphasized. What is the significance of the pain? In one class of case the pain is due to haemorrhage within the tube, causing distension of the tube and possibly contractions of the tube wall. In other cases the pain is due to sudden or gradual escape of blood into the peritoneal cavity, where tubal abortion or rupture of the tube has taken place. Where the attacks of pain are recurrent, there seems reason to believe that the ovum is still within the tube, and that its presence exposes the patient to the danger of further attacks of haemorrhage through the open fibrinated end. The presence of a haemorrhagic discharge from the vagina is a very important and valuable symptom. It may precede by some days, or even a week or two, the onset of the pain, but often it follows the attack of pain. The discharge, as a rule, is moderate in amount and reddish-brown in colour. Sometimes, however, it is much more profuse and bright red, and exceptionally the discharge may be dark coloured and highly offensive. It is known that a decidua cast from the uterus is shed at some time in the course of a tubal gestation, but in only a very few of the cases is the expulsion of this cast actually observed. This positive evidence of tubal pregnancy is available in only about 10 to 15 per cent. of the cases.

Signs of faintness and collapse are present in a certain number of the cases, but not by any means in all. These two symptoms depend on the severity of the pain and the amount and suddenness of the internal haemorrhage. A history of faintness does not invariably signify the occurrence of internal bleeding.

Unless the medical attendant is present soon after the attack and observes the condition of the patient, it is possible to be misled. The patient may have fainted on account of the severity of the pain. In such a case the colour soon returns after the pain has subsided. When, however, the fainting and collapse are due to internal bleeding the pallor persists after the severe pain has subsided. One must, therefore, look upon persistent pallor as a strong indication of internal haemorrhage, when the other symptoms are suggestive of gestation in the tube.

Changes in the breasts are rarely present in cases of tubal gestation, seeing that the majority of these cases come under observation at some period between the third and eighth week of gestation, and during these early weeks the breast signs are rarely distinctive.

One may divide cases of tubal gestation into two classes. In the first, which may be described as the acute fulminating cases, the patient without any premonitory symptom is suddenly seized with acute abdominal pain, accompanied by faintness and collapse, together with vomiting. In this class there is a large effusion of blood into the general peritoneal cavity. In the second class, which is by far the more common variety, the patient has an attack of abdominal pain, possibly preceded by some irregular haemorrhage; there may or may not be a little faintness at the time. These symptoms, however, subside, though the haemorrhagic discharge probably persists, and within a few days, or possibly a week or two, the patient has a more severe attack in which the evidence of internal bleeding may become more marked.

The physical signs met with in cases of tubal pregnancy depend on the amount of haemorrhage and the rapidity with which the bleeding occurs. In the fulminating variety, where the haemorrhage is very sudden and excessive, if the patient is seen within a few hours of the lesion, the marked pallor is at once apparent, together with the small rapid pulse and rather shallow respirations. The abdomen is a little distended, and there is some tenderness below the level of the umbilicus. There is nothing to be felt on palpation except a little resistance over the tender area, but percussion will give evidence of dullness in the flanks and a little dullness above the pubes the bladder having been emptied by catheter to exclude this possible source of error. On vaginal examination in this variety the signs are again not very definite. The uterus will almost certainly be found

lying in front and a little enlarged. Some fullness will be felt in the pouch of Douglas, and it is possible that an ill-defined soft swelling may be made out in the right or left posterior quarter of the pelvis in the situation of the enlarged tube. One may, however, be unable to define any swelling on vaginal examination. It is needless to say that the examination of a patient under the circumstances mentioned must be carried out with extreme care and gentleness, for fear of causing further bleeding. The two important signs to notice in these cases are pallor and the presence of free fluid in the abdomen.

Next, we will suppose the initial symptoms are not so severe, there being no evidence of internal bleeding, as shown by the absence of collapse and any marked pallor. At first the nature of the case may not be apparent; but if the patient is examined within forty-eight hours or so the blood effused may have become encysted, forming a pelvic hæmatocele. On abdominal examination a swelling will be found rising up into the hypogastrium for a variable distance towards the umbilicus. This swelling is tender and somewhat elastic, and is dull on percussion. Per vaginam, the uterus is found somewhat enlarged, pushed forward behind the pubes, and the collection of blood forms an elastic swelling filling up the pelvis and bulging down the posterior fornix. In such a case as this the blood has probably escaped more slowly from the damaged tube, and has gravitated into the pelvis. The effusion of blood into the pelvis has become shut off by matting of the intestines above it, which form a roof to the hæmatocele.

In a third class of case we find a patient who may or may not have missed a period, gives a history of recurrent attacks of pain often increasing in severity with a persistent or intermittent hæmorrhagic discharge. There is, however, no sign of any faintness. In such a case the recurrent attacks of pain may be associated with hæmorrhage within the Fallopian tube causing distension, or small hæmorrhages round the fimbriated end of the tube becoming localized, which gives rise to the condition known as peritubal hæmatocele. There is, however, no copious hæmorrhage into the general peritoneal cavity, nor is there any large effusion into the pelvis.

In such cases some tenderness and resistance will probably be made out in the lower part of the abdomen to the right or left of the middle line. Bimanually the uterus will be found to be enlarged, pushed forwards, and not infrequently displaced to one side. A swelling of unequal consistence, partly elastic and partly firm, will be felt in the right or left posterior quarter of the pelvis. This swelling is somewhat adherent to the uterus, but is capable of a considerable amount of mobility. It may be the size of a duck's egg or larger. In these cases the posterior vaginal wall is not bulged down and the appendages of the opposite side are usually quite normal.

In discussing the clinical history of cases of gestation in the Fallopian tube no mention has been made of salpingitis as an antecedent in these cases, nor has any importance been attached to the fact that in certain cases long periods of sterility may have preceded the occurrence of a tubal pregnancy. Although sterility may have been present in a few cases, it is not of sufficient frequency to be of diagnostic value. So far as salpingitis is concerned, the knowledge gained from the operative work at St. Thomas's Hospital goes to show that, with the exception of one or two cases, salpingitis plays no part whatever in predisposing to tubal pregnancy. On *a priori* grounds this is what one would expect. For the embedding of the ovum in the uterus we know that a healthy mucous membrane is essential. There is no reason to suppose that in the case of the Fallopian tube any different condition prevails.

In few diseases is a careful and accurate history of more importance than in cases of tubal pregnancy. Errors in diagnosis will certainly occur unless special attention is paid to the history of the case and the onset of symptoms. The two most common errors are mistaking the condition for one of pelvic inflammation, or for an ordinary miscarriage.

In the majority of cases of pelvic inflammation there is a history of some past gonorrhoeal infection, or the onset of the symptoms follows soon after a miscarriage or confinement, or some other form of septic infection. There is not any history of a missed period or delayed menstrua-

tion, and usually there is no accompanying hæmorrhagic discharge of dark brownish red colour which is so characteristic of tubal pregnancy. The temperature, moreover, is raised in pelvic peritonitis, and there is no evidence of pallor or faintness.

With regard to the diagnosis from ordinary miscarriage, the only cases of tubal gestation which are likely to be mistaken for this are those in which the hæmorrhage is unusually severe and in which sufficient attention has not been paid to the other symptoms present. The pain in case of miscarriage usually precedes or accompanies the hæmorrhage, and ceases after the expulsion of the ovum. The pain is usually felt in the sacral region or in the hypogastrium. In tubal gestation the pain is nearly always unilateral; it may occur with the hæmorrhage, but the severity of the pain is greater and the attacks are recurrent. There is also the important evidence that on vaginal examination in cases of ordinary miscarriage there is only the one median uterine tumour, whereas in tubal pregnancy causing symptoms there is the uterine tumour, and also a second lateral swelling of greater or less size due to the enlarged tube with hæmorrhage around it.

It is well always to remember that where irregular hæmorrhage comes on suddenly in a young married woman in the child-bearing period, without any previous history of menorrhagia, in cases where carcinoma of the cervix can be excluded, pregnancy should be thought of as a possibility, whether or no there is any history of amenorrhoea. Having this possible diagnosis before one, it then becomes necessary to decide whether the pregnancy is intrauterine or extrauterine. The character and situation of the pain is of value.

The treatment of these cases must depend on the conditions present in each individual case. In the earlier part of this paper three classes of cases were referred to. We must be guided in our treatment by considering what is the least risk to the patient in each of these classes.

In the first class—the fulminating variety, where the patient is collapsed and the pelvis and lower abdomen is full of blood—it is our duty to advise immediate operation and to save the patient from the risk of further bleeding. It may be contended that operating on a patient collapsed from hæmorrhage is a very serious undertaking; but as a rule at the time the patient is seen the hæmorrhage has ceased, and if it has not ceased there is all the more reason for not delaying operation. The operation undertaken at this period is exceedingly simple, and takes a very short time. After opening the abdomen the hand is at once passed down to the side on which the tube has ruptured, and the appendages of that side secured with ligature. The removal of the blood from the pelvis and abdominal cavity and subsequent lavage of the abdominal cavity with warm saline solution is usually followed by marked improvement in the condition of the patient, provided too much time is not spent on this proceeding.

In the second class, where one does not see the patient till a pelvic hæmatocele has formed, the treatment to a certain extent depends on the time that has elapsed between the severe attack of pain and the examination of the patient. If the severe attack of pain is of recent origin, it is still one's duty to advise operation, as at this period there is a very definite risk of another attack of pain with more severe hæmorrhage. Moreover, when surgical treatment is carried out within a few days of the onset, the adhesions formed are readily separated, the blood effused can be completely removed, the operative risk is extremely small, and the result in such cases is highly satisfactory. In the event of the patient not being seen or the condition diagnosed till ten days or more after the attack of pain causing the effusion of blood, provided the patient has kept free from pain during this interval, one may safely advise an expectant treatment, the patient being kept at absolute rest in bed. There is good reason to believe that in such a case as this the ovum has escaped through the open fimbriated end of the tube at the time of the hæmorrhage, and that the Fallopian tube has contracted down after evacuation of its contents. Under these circumstances the risk of further internal bleeding is very slight, and there is a very fair chance of the early ovum, together with the effused blood, being gradually and completely absorbed. In a few cases sup-

puration may take place in the haematocoele, and incision and drainage per vaginam may become necessary. Gradual absorption of a pelvic haematocoele does not always occur, even though the patient may be kept under the most favourable conditions. It sometimes happens that further attacks of pain occur, with increase in size of the abdominal swelling. This enlargement of the haematocoele means further haemorrhage into the sac, and in such cases it is usually found that the tubal mole is still retained within the tube, and remains a source of danger to the patient. Abdominal section, with removal of the affected tube and blood clot, will then become necessary.

In the third and last type of case, in which the patient has repeated attacks of pain, together with irregular haemorrhagic discharge, but without any collapse or faintness, and where a unilateral swelling is found in the situation of the tube and ovary, it is always advisable to advise abdominal section, as there is grave risk of rupture of the gestation sac, or of severe haemorrhage occurring through the fimbriated end of the tube. If the operation is performed while there is a comparatively small localized swelling in the situation of the tube there is, under present conditions of surgery, the least possible risk. If, however, the case is left and sudden severe haemorrhage into the peritoneal cavity occurs later, operative interference may become necessary when the condition of the patient is far less favourable.

To sum up, one may say that operative treatment is indicated in those cases where the haemorrhage is moderate or severe and of recent origin, and also where the symptoms and physical signs indicate that the gestation sac is still contained within the tube. It is safe, however, to wait and watch the patient in cases where a haematocoele has already formed, and where, after the initial attack of pain, the patient has been free from symptoms for a week or more. Under these circumstances there is a good chance of the blood becoming completely absorbed, and no serious risk is run by following an expectant treatment.

A CASE OF RUPTURED ECTOPIC GESTATION OCCURRING IN A RUDIMENTARY HORN OF A UTERUS BICORNIS UNICOLLIS.

By H. T. HICKS, F.R.C.S.Eng.,

GYNAECOLOGICAL SURGEON TO THE DERBYSHIRE ROYAL INFIRMARY,
DERBY; LATE OBSTETRIC REGISTRAR AND TUTOR, GUY'S
HOSPITAL; AND ASSISTANT SURGEON TO
THE SAMARITAN HOSPITAL.

HISTORY OF THE CASE.

R.P., aged 39, had had three full-term children, the youngest being 16 years old. Nine years ago the patient had an attack of peritonitis on the right side which was thought to be due to appendicitis. Nine weeks before admission into the Samaritan Hospital she was seized with sudden abdominal pain on the left side when fourteen days overdue with a menstrual period. Haemorrhage from the vagina began a week later. The patient only remained in bed a few days after the onset of pain, and did not consult her doctor till nearly six weeks later. During this time the pain continued, and eventually became worse. She then went to see Dr. Hamilton of Ashford, who found the uterine tumour. Except at the onset of the pain the patient did not seem to be ill, and merely went to the doctor because the pain con-

tinued and prevented her doing her work. Dr. Hamilton sent the patient to see me, and she was admitted into the Samaritan Hospital under my care.

On examination I could feel the somewhat rounded firm tumour attached firmly to the left side of the uterus, and I at first thought that it was a fibroid, and that the patient might possibly have aborted nine weeks earlier.

On further consideration, however, there seemed to be too much pain present for a simple fibroid tumour, and the suddenness of the onset, followed a few days later by uterine haemorrhage, strongly suggested a ruptured ectopic gestation. With this possibility in view I advised operation, which the patient was only too ready to accept, because she said the pain was at times more than she could bear.

On opening the abdomen the uterus was found to be enlarged; the projecting left horn containing the mole was firmly attached to the intestines and omentum. The right Fallopian tube was converted into a large hydrosalpinx. I removed the uterus by supravaginal hysterectomy as well as the right tube and ovary. The left tube was quite normal and its fimbriated end patent. The left tube and ovary were not taken away. The only point of interest about the operation was the condition of the intestines, which were firmly attached to the site of rupture on the posterior aspect of the gestation sac. The walls of the gut in direct relation to the ruptured gestation sac were nearly half an inch thick. This was due to haemorrhage which had taken place into the muscular coat of the intestine. A portion of the ileum which capped the blood clot had a crater-like depression nearly half an inch deep. The lumen of the gut was not encroached upon. I had considerable difficulty in freeing the two adherent and thickened loops of small intestine and the sigmoid. The peritoneal coat of the gut had completely disappeared over the adherent area and it was quite impossible to bring the peritoneum together, but the eroded and thickened walls were united as far as possible with catgut without constricting the intestinal canal. No doubt the trophoblasts of the ovum had actually invaded the gut and their eroding action had caused the haemorrhage into the muscular coat of the intestine.

The patient made an uneventful recovery.

THE SPECIMEN.

The uterus is enlarged, measuring $3\frac{1}{2}$ in. vertically and $4\frac{1}{2}$ in. and $3\frac{1}{2}$ in. across at the levels of the attachments of the Fallopian tubes and round ligaments respectively. Externally it has the appearance of a uterus bicornis unicollis, the right side being well developed and the left rudimentary. The rudimentary horn joins the right side above the internal os, and is composed of a solid block of uterine muscle in the distal portion of which the mole has developed. The rudimentary horn projects upwards and to the left from its junction with the right side for a distance of $2\frac{1}{2}$ in., and measures $1\frac{1}{2}$ in. across at its base.

The bridge of uterine muscle which separates the mole from the uterine cavity of the right side is $1\frac{1}{2}$ in. thick, and contains no cavity. There is thus no connexion between the cavity of the uterus and that containing the mole. The mole measures $1\frac{1}{2}$ by $2\frac{1}{2}$ in. in its chief diameters. It is composed of firm blood clot, and is surrounded by a rather thin capsule on its outer side. The left Fallopian tube is attached to the outer and lower

Anterior view of specimen. R. FT., Right Fallopian tube; R. O., right ovary; C.L., corpus luteum; U.C., uterine cavity; L. R.L., left round ligament; L. FT., cut end of left Fallopian tube; M., mole; B.C., blood clot containing villi.

angle of the horn. Behind the capsule has given way over an area about the size of a half crown, and through the rupture blood clot protrudes. The top of the blood clot is shown in the drawing of the specimen. The left