

A Case of Disturbed Tubal Pregnancy

Case Report:

L.A.L.—Chinese, Female, age 31 years.

Admission No. 814B.

Admitted to the Gynaecological Service of this Hospital on 10th April, 1956.

Complaints:—

1. Vaginal bleeding daily from March 6th 1956 (45 days before admission).
2. Spasmodic colicky lower abdominal pain from the second day of vaginal bleeding.
3. Fainting spells on 2nd day of bleeding and on day of admission.
4. Severe lower abdominal pain on day of admission (45th day of bleeding).

History of Present Complaint:—

The patient was in good health on March 6th 1956, when she noticed the onset of vaginal bleeding, which she thought was her usual menstrual discharge, since it came on the expected date. There was no preceding period of amenorrhoea. However, on the second day of bleeding, she noticed a pain over the supra pubic region. Her previous menses were unassociated with pain. This pain was colicky in nature and came on spasmodically. On one occasion it was severe enough to cause a fainting spell, but she recovered so well afterwards that when she attended our Out-patients department, in the absence of any definite history or signs of an abdominal catastrophe, she was sent home reassured.

The patient, however, continued to suffer lower abdominal colicky pain, but did not again suffer any attack of faintness. On Good Friday, she came along to the Hospital again, but was told that, as she did not appear to be in need of emergency treatment, she was to come up again on the next Out-patient Gynaecological Clinic day. The days passed without her getting better or worse, until on the morning of April 10th 1956 (45th day of bleeding) she suddenly felt a pain more severe

paid than any previously felt. As it was Tuesday, the patient thought she would not be seen by our Unit, so she went along to see a private practitioner, who referred her to us, as a case of incomplete abortion. She fainted again while waiting to be seen in the Out-patient Department. There was no shoulder pain at any time; nor was there fever. There was on dysuria, but there was marked pain on defaecation.

Obstetrico-Gynaecological History:—

The patient has been married 10 years, has only two children, ages 9 and 6 years respectively. The pregnancies, labour and puerperium were normal as far as was known, and both children are alive and well. The husband is in good health and living with her.

No history suggestive of pelvic infection could be elicited, and there has been no abortion.

Menstrual History:—

Menarche at the age of 15 years.

The periods were regular and come at intervals of approximately 30 days. The flow was considered normal and lasted 4—5 days, and at no time was there associated dysmenorrhoea. The last normal period lasted from 6/2/56 — 9/2/56.

The Previous Medical and Surgical and Family Histories are irrelevant.

O./E.:—

A thin very pale Chinese woman, lying quietly in bed. Her pulse rate was between 90 — 100 per minute, the volume was fair and her blood pressure was 90/60. The body temperature was normal. Examinations of her Respiratory, cardio-vascular and neurological systems were negative.

Abdomen:

On inspection there was a nodule $\frac{3}{4}$ " in diameter 3 inches above the pubic symphysis and 2 inches from the mid-line on the right side. Palpation confirmed this, and also revealed the fact

that it was mobile. It was tender, Cullen's sign was absent.

There was some guarding over the lower abdomen and there was tenderness over the supra pubic and both lower quadrants, the right side being slightly more tender than on the left. There was no tympanites, and there was doubtful shifting dullness, although the abdomen appeared to be a little full, suggestive of free fluid.

Pelvic Examination:—

Revealed a normal size uterus displaced to the left of midline. The cervix was firm: mobility was limited, but excitation tenderness was absent. No pulsation could be felt in either of the lateral fornices.

In the pouch of Douglas an indefinite bogginess was felt, and in the Rt. fornix a circumscribed cystic swelling about 2 inches in diameter could be made out and it was continuous with the nodule previously felt abdominally. The continuity between the cystic mass and the abdominal nodule was definitely established in the Operation Theatre before laparotomy and without anaesthesia.

A provisional diagnosis of Disturbed Tubal Pregnancy on the Rt. side was entertained, although in view of the findings of a definite cystic swelling in the lower pole of the mass in the also thought possible.

Treatment:—

A dextrose drip was set up in the ward, while in the Theatre during the operation two pints of matched blood were given.

An emergency laparotomy was carried out.

Operation & Findings:—

A subumbilical midline incision was made and on opening the peritoneal cavity dark fluid blood gushed out under pressure. In all an estimated 3 pints of blood were found in the abdomen.

The uterus was displaced to the left. It was normal in size. The Left tube and ovary and the appendix were normal.

There was a large haematocoele on the right side of the pelvis and also posteriorly filling the cul-de-sac.

The cystic mass felt previously was found to be Corpus Luteum of the Rt. ovary, 1½ inches in diameter. This was

accidentally ruptured in evacuating the haematocoele. The gestation sac was not found.

The right tube was ruptured in the ampullary region about 1" from the fimbriated end. The rest was approximately" in diameter. Both the right tube and ovary were removed, the pelvic and abdominal easily were evacuated of blood clots, and the abdomen closed in layers.

Progress:— (12/4/56)

The patient made an uneventful recovery, and her haemoglobin is now 70%. (Sahli).

Discussion.

Dr. Wilson Roddie opened the discussion.

He said that early extra-uterine pregnancy was one of our most perplexing problems and especially in places like Singapore where the incidence of pelvic inflammatory disease was high. Errors in the diagnosis of the condition were not uncommon; they consisted both of making a diagnosis of ectopic gestation when it was absent and of overlooking a tubal pregnancy when it was present. This latter was the commoner error. One important way to reduce the incidence of erroneous diagnosis was to bear in mind the likelihood of ectopic pregnancy in the presence of painful pelvic conditions when the history and findings are not especially helpful. Typical cases of tubal pregnancy was, of course, easy to diagnose, but not infrequently, even in the presence of a history characteristic of tubal gestation and almost pathognomonic findings on bimanual examination, one may find a ruptured corpus luteum cyst over even an acute pyosalpinx.

Practical experience was very useful necessity in making a diagnosis. One of the most reliable physical signs in the condition was a tender cervix. The finger should be passed over the vaginal fornix gently; as the finger touched the cervix the patient winced or complains of pain. Remember that in disturbed ectopic pregnancy the cervix was more tender than the lateral mass of a pyosalpinx and the reverse is true in the infected pelvis.

There were 2 main types of case—the typical and the atypical. The latter was frequently associated with a heterogenous group of signs and symptoms which tended

to raise in the mind of the doctor things other than an extra-uterine pregnancy. The one note that seemed to sound through all these bizarre groups of symptoms was a woman exposed to pregnancy, who has menstrual irregularity in conjunction with pelvic pain, and a history and physical examination that are equivocal.

The aetiological factors in ectopic pregnancy have been written about over and over again and it was generally agreed that organic changes in the tubes resulting from either congenital malformations or previous inflammations stand out as the foremost causes of this condition. However, Asherman had an interesting idea about the cause of some cases of tubal pregnancy. Not denying that infection could play a part he holds the opinion that functional disturbances of the propelling mechanisms of the tubes may be to blame at times rather than pathological changes. The tubes are not mere inactive channels through which the ova or sperm travel to and from the uterine cavity. Full patency or lack of anatomical change will not necessarily insure their normal functioning. Tubal movement is dependent upon hormonal and upon neurological factors. Any disturbance in the neuro-endocrine balance is likely to bring about a change in the normal functioning of the tubes and may result in infertility and/or tubal pregnancy depending on the severity of the disturbance. Psychological disturbances and inner tension have a strong effect upon the endocrine as well as upon the autonomic nervous system. The sympathetic sends vasoconstrictor and depressive impulses to the uterine and tubal musculature while the parasympathetic has vasodilating and excitatory effects. The result of these opposing actions is the normal tonus of the tubal musculature. Any imbalance will therefore cause tubal dyskinesia. Constriction of the smooth muscle at the utero-tubal or isthmo-tubal junction can stop the passage of the sperm and block the way of the fertilised ovum. The ovum cannot move by itself but the sperm can. If the spasm is tight enough sterility will result. It is suggested that autonomic dysfunction can cause either infertility or ectopic. This might explain the following:

1. Infertility and ectopic often occur in the same women, either one coming first.

2. Tubal pregnancy often repeats itself in the same patient, even after the second tube was found intact during the first operation.

The occurrence of infertility and ectopic pregnancy, as well as the recurrence of ectopic in the same patient suggest a common causal factor in some cases. The idea that emotional factors can cause autonomic imbalance is well known and these in turn can result in somatic changes. The widespread emotional strain pervading all humanity today may therefore be a factor in the increased incidence of pregnancy and sterility.

Professor Sheares reiterated the Signs and Symptoms in relation to the pathological anatomy of tubal gestation with rupture.

1. *Before Rupture.*

(a) *Clinical Features & Treatment:*

Symptoms those of early pregnancy. May be soreness in pelvis, generally to one side, though not worrying enough for her to seek advice and so very seldom diagnosed. Pelvic examination may reveal tenderness and perhaps a small mass to one side of the uterus. A-Z test will help in diagnosis, and operation may be done before it ruptures. Do not make the diagnosis unless physical signs justify it. The mass may be a haemorrhagic corpus luteum.

(b) *Pathology:*

Ovum implantation may be columnar or intercolumna. Deficient decidual response in the tube. Villi same characteristics as in intra-uterine pregnancy. Spurious decidua basalis and decidua capsularis. It depends on the part of the tube in which the ovum is embedded as to how much the dome of the spurious pseudocapsularis can expand before rupture takes place. In the ampulla, rupture occurs usually later than in the isthmus or the interstitial portion. Nitabuch's fibrin layer not so well defined.

2. *Tubal Abortion.*

(a) *Clinical Features:*

Sudden sharp pain after 1 or 2 missed periods, often accompanied

by feeling of sickness and faintness and followed by vaginal bleeding.

Intra-peritoneal bleeding may be slight, the ovum aborted through the abdominal ostium and bleeding stop altogether.

Clot is absorbed and patient recovers.

Intra-peritoneal bleeding may be more severe, blood gravitates into Douglas' pouch and form a pelvic haematocele.

(b) *Pathology:*

The pseudocapsularis ruptures, haematosalpinx (Sactosalpinx) occurs and blood escapes through abdominal ostium into pelvic cavity—*tubal abortion* or it may separate into the lumen of the tube and degenerate—*tubal mole*. Early hydatid change in a blighted ovum—villi have blood vessels to start with but these disappear when ovum dies.

Normal decidua seen in only 20% ectopics.

(c) *Treatment:*

Conservative and expectant. If haematocele small and A-Z test negative—leave, as clot and ovum may be absorbed. If haematocele large — operations because it ensures rapid convalescence and may forestall infection of the clot.

3. *Intra-peritoneal Rupture with single moderate haemorrhage.*

Clinical features, pathology and treatment similar to No. 2 except that villi have eroded through wall of tube into peritoneal cavity and opened up blood vessels.

4. *Intra-peritoneal rupture moderate haemorrhage.*

(a) *Clinical features* — this includes the majority of cases.

Exacerbations of pain.

Patient's colour and pulse depend upon the severity of the haemorrhages. If haemorrhages not severe it is often mistaken for pelvic inflammation.

A negative pregnancy test does not rule out ectopic pregnancy.

Physical Signs — are due to the large and enlarging pelvic haema-

tocele. Midline sub-tympanic swelling extending upwards from Symphysis — somewhat asymmetrical.

Cullen's sign may be present.

Bimanually, uterus usually enlarged to size of 8 weeks pregnancy, soft. Hegar's sign negative.

(b) *Pathology*

The Chorionic membranes are attached to the ruptured tube and hence the extruded embryo continues to grow. The first haemorrhage leads to a peritoneal exudate with adhesions which bind together the adjacent structures. A conglomerate mass of broken tubes growing embryo, clot, fibrin and intestine temporarily lessens the danger, but after a few days or weeks the continued growth causes further erosion of the tube or one of the tube or one of the limiting structures with accompanying bleeding and so the process is repeated many times. Hence there is gradually increasing mass accompanied by frequent attacks of pain.

(c) *Treatment*—Operation. Evacuation of haematocele, removal of affected tube.

5. *Intra-peritoneal rupture with profuse haemorrhage, in about 5% cases.*

(a) *Clinical Features* — Characteristic of acute abdominal catastrophe from internal haemorrhage with all its accompanying signs.

Shoulder pain due to irritation of phrenic nerve in diaphragm.

No pain may be referred to back between scapulae, to epigastrium or hypochondrium.

No mass felt because blood not yet firmly clotted.

Bimanually difficult — Never to be done in domiciliary practice. Extreme tenderness on moving cervix.

Exploratory puncture cul-de-sac reveals blood.

Decidua may be expelled either in shreds or as a complete cast — signifies ovum is dead. Occurs in other types of ectopics as well. No chronic villi seen when cast examined.

(b) *Pathology.*

Erosion has involved a large vessel or vessels and this type is more likely to occur in cases of implantation in the isthmus of interstitial portion of tube.

Decidual Cast is passed in 50% cases (Polak); may be in small particles. Expulsion of a decidual cast in tubal pregnancy signifies death of embryo, but a considerable interval, often several days, may elapse before the cast is thrown off. Most cases of tubal pregnancy do not come under observation until after the embryo has died, sometimes not until weeks afterward. The endometrium in the meantime has regenerated itself, so that, if examined at the time of operation for tubal pregnancy. If embryo is still viable, typical decidual are obtained with curette, but no villi. Spongiosa-tortuous glands parallel to surface. Look like lymphatic spaces. Venous Channels at junction of compacta and spongiosa—a thrombosed cavity lined by single layer of low cuboidal epithelium. Mosaic arrangement decidual cells. Leucocytes and round cells.

(c) *Treatment.*

Immediate operation. Whilst awaiting operation, absolute rest, morphia, no stimulus, no transfusion, no enema, no bimanual examination. Don't waste time making a differential diagnosis. Transfusion as soon as bleeding points ligatured. Speed essential in these bad cases — don't waste time welling out of the blood. Find ruptured tube in the pool of blood by the break in continuity on running the fingers along

affected tube. Apply clamps by touch. Auto-transfusion if blood is less than 36 hours old.

6 *Rupture into Broad Ligament (Intraligamentary)—1 in 200 ectopic pregnancies.*

Rupture occurs at some point along line of attachment of mesosalpinx. Haemorrhage into layers of Broad ligament—may be severe and push up Broad ligament high into abdomen.

Incidence should be 1 in 6 ectopics, because mesosalpinx covers 1/6 of circumference of tube. Embryo may extrude between the folds — placenta continue to develop and the Broad ligament pregnancy often progresses to late stage of development, even to term.

Clinically, this type is most likely to be confused with any other pathological pelvic condition resulting in tumour formation especially parovarian cyst.

7. *Interstitial Pregnancy*—(1 in 30 tubal pregnancies), may terminate in rupture into peritoneal cavity and the symptoms are then acute and severe. High mortality. If ectopic goes beyond 16 weeks before rupture it is usually interstitial. In addition it is less likely to show vaginal bleeding than isthmal and ampullary types —bleeding in less than 50% cases.

OR

In rare cases may develop into angular pregnancy (Munro-Kerr) if ovum implants near the uterine ostium of the tube. Ovum develops towards and ultimately fills the uterine cavity. Causes asymmetrical enlargement of of the uterus. Tends to end in abortion about the 20th week. Placenta retained in thin-walled sacculatation. May be mistaken for myoma complicating pregnancy.