

## A CASE OF INTRALIGAMENTARY PREGNANCY WITH SECONDARY ABDOMINAL RUPTURE

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Mrs. R. S., a Hindu female of 30, was admitted to K.E.M. Hospital on 9th September 1950 with the following complaints:—

Patient had amenorrhoea of 6 months followed by profuse and irregular bleeding per vaginam for the last one month. She had noticed a lump in the abdomen for the last 6 months which was slowly growing. Since last month it had decreased in size and had become more painful. The vaginal bleeding, which was preceded by leucorrhoea, was more in the early part of the month. Bleeding occurred at irregular intervals.

Patient's menstrual history revealed that she had menarche at the age of 12 years. She was having regular periods till the last six months. Patient had eight full term normal deliveries, five of the children were living and three had died of some cause not known to her. The last conception was four years ago. Personal and family history did not reveal any important facts.

On physical examination the patient was found to be well-built but anaemic, with pallor of tongue and conjunctiva. Examination per abdomen showed an oval swelling extending from the umbilicus to the pelvis with its long axis slightly deviated to

the left. The swelling was well defined, tender on deep pressure and firm in consistency. There was no ballotment in the swelling.

*Examination per Vaginum.* The cervix was firm, the os was closed and deviated to the right side. The body of the uterus could not be palpated separate from the mass. Internal ballotment was not present. With the clinical diagnosis of vesicular mole the patient was investigated further.

R.B.C. count was 2.6 million per cu. mm. Haemoglobin 50% Sahli. W.B.C. count was 18,000 per cu. mm. Blood Kahn test was negative. Blood group "O". Urine examination showed normal constituents. Pregnancy test on urine (Indian Male-Toad Test) was positive. Plain X-ray of abdomen:—There was a soft tissue shadow extending from the pelvis to the left iliac fossa, and left lumbar region. The shadow of the foetal skeleton was situated in the right iliac fossa. The foetal skull was deformed and the rest of the skeleton showed crumpling up. Few faint intestinal shadows were seen in front of the foetus. There was no soft tissue shadow surrounding the foetus.

An uterine sound was passed which went in the direction of the right side of the pelvis for a distance of 3 inches.



It could not be made to enter the palpable mass at the left. The fundus had no separate mobility. Hystero-graphy was not done due to lack of lipiodol.

With a pre-operative diagnosis of secondary abdominal pregnancy, the patient was taken up for laparotomy. Under spinal (Stovaine) anaesthesia, the abdomen was opened by subumbilical midline incision. The body of the uterus was seen to have been pushed to the right side of the pelvis. The gestation sack was filling up the left broad ligament extending from the side of the fundus to the left iliac fossa. Through a hole in the posterior aspect of the sack the umbilical cord extruded, which disappeared into another mass of omental adhesions on the right side of the abdomen.

Subtotal hysterectomy was begun from the right side. The right broad ligament was clamped and cut. The cervix was cut across and then the left uterine vessels were secured. The left broad ligament was opened up and the sack separated from its two leaves. The left infundibulo-pelvic ligament was then secured and cut, and the whole mass along with the body of the uterus was taken out.

The umbilical cord was then followed to the mass on the right side. The adherent omentum was ligatured and cut, and the dead foetus with tags of adherent omentum was finally removed. The cervical stump was sutured and pelvis reperitonised. The abdomen was closed in layers.

Patient was given Penicillin and Sulfadiazine for the first five days of her post-operative convalescence, during which she was febrile. The

rest of the convalescence was uneventful and the patient was discharged on the 15th day of operation.

*Description of the Specimen.* The body of the uterus was  $2\frac{1}{2}$  ins. in length. The sack of gestation measured 6 ins. x  $4\frac{1}{2}$  ins., and showed areas of haemorrhages in its wall. Through a hole in its posterior surface the umbilical cord about 7 ins. in length extended to the foetus. The craniocaudal length of the foetus was  $4\frac{1}{2}$ ". The ankle joints and wrist joints were deformed. The skin in the region of the face and frontal bones was macerated and hence features of the foetus were destroyed. There were adhesions of the omentum in the scapular regions.

#### *Discussion.*

According to Champion and Tessitore intra-ligamentary pregnancy occurs once in every 183,900 normal pregnancies. They also reviewed the subject in 1938 with case reports and consider the following 3 requisites for intra-ligamentary pregnancy.

(1) Implantation must have occurred in that part of the tube which was uncovered by peritoneum.

(2) The ovum must have ruptured early before the trophoblast had lost its power to ensure secondary nidation. When villi are formed this action is naturally lost.

(3) The interval between primary and secondary implantation must have been short or else death of the embryo would have occurred.

(4) Endometrial tissue is pre-requisite to nidation according to Frankel and Scheneck.



It is generally believed that intraligamentary pregnancy occurs due to early primary rupture in the broad ligament, but Champion and Tessitore also suggest alternative explanation that it may also occur due to primary abdominal pregnancy with implantation on the posterior layer of the broad ligament. The growing ovum perforates the broad ligament and grows there. Champion and Tessitore also suggest the possibility of its development from an ovarian pregnancy.

Since both primary abdominal pregnancy and ovarian pregnancy are rare occurrences, their explanation is not so convincing, as intraligamentary pregnancy is commoner than the two.

The intraligamentary pregnancy may develop into either an anterior variety or a posterior one, according as the layer of the broad ligament which is pushed off the parietes by the growing gestation sac. The placenta is usually situated on the superior aspect of the sac. The pregnancy may reach full term or secondary abdominal rupture may occur before that time. Rupture through a vascular area may cause symptoms of acute internal haemorrhage while that through an avascular area may be a silent rupture. This must have been the possible development in the case reported.

After the secondary rupture the sac may contract in size and it would not be possible to identify whether the pregnancy had developed into an anterior or posterior variety. The sac and the foetus also become very prone to infection.

It is generally believed that the

patient with advanced ectopic pregnancy gives symptoms of acute rupture in the early part of gestation. This, however, appears doubtful when one considers the fact that rupture takes place very early and is of such a gradual nature that the detached trophoblast is able to re-implant before the death of the embryo. The haemorrhage during this process cannot be profuse as it would otherwise detach the ovum completely, causing its death.

The incidence of deformity is as high as 50 per cent in the ectopic foetus. This may be due to the altered surroundings in the ectopic gestation sac. The foetus removed in this case had obvious deformities of both wrist and ankle joints. The foetus also showed signs of maceration which is the process akin to the maceration of the intra-uterine foetus after its death in the absence of infection. However, the foetus in the abdominal cavity is very much prone to infection.

The former belief that the extruded embryo would continue its development only when the membranes were intact is not considered an essential requirement to-day. However, in the case reported it appears that the death of the foetus occurred after the secondary abdominal rupture because the abdominal pain, the shrinkage of the mass, and vaginal bleeding occurred in rapid succession.

The diagnosis of advanced ectopic pregnancy is mainly based on a history of amenorrhoea of several months, the separate identification of small uterus and foetus in any extra-uterine position. Hystero-salpingo-



graphy is very helpful in the diagnosis of this condition. In its absence plain X-ray and sounding of the uterus are necessary. Intestinal gas shadows in front of the foetus and the absence of soft tissue outline of the uterus surrounding it are the signs of an extra-uterine foetus. However, it must be remembered that both these signs may be absent in an anterior intra-ligamentary pregnancy.

The positive pregnancy test in this case in spite of the death of the foetus which must have occurred one month previously is unexplained.

The treatment is easiest in the cases of intra-ligamentary pregnancy where death of the foetus has already occurred. The placenta is mainly adherent to the leaves of the broad ligament and the surface of the uterus, and in such cases the separation and removal is easy and safe. In 236 cases collected by Cornell and Lash the placenta was attached to the uterus in 67 cases and broad ligament in 57 cases. It is possible to do sub-total hysterectomy and removal of the sac by proceeding from the opposite side. The above method was resorted to in the case reported. When the sac has formed adhesions with the retro-peritoneal blood vessels and with intestines in the peritoneal cavity the placenta has to be left behind after removal of the foetus only.

#### Summary.

- (1) A case of intra-ligamentary pregnancy with secondary abdominal rupture is reported.
- (2) In this case it appears that intra-ligamentary growth of the foetus occurred for 6 months followed by secondary rupture of a silent nature, killing the foetus.
- (3) The pathology and the varieties of intra-ligamentary pregnancy are considered.
- (4) The treatment of intra-ligamentary pregnancy is reviewed.

In the end I have to thank Dr. R. G. Dhayagude, Dean of K.E.M. Hospital, Parel, Bombay, for allowing me to report this case. I also thank Dr. K. M. Masani, under whose care the patient was treated, and Dr. B. N. Purandare, who operated on the case and supplied me with the case notes and the photographs of the specimen and X-ray.

#### References.

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