

## ADVANCED ABDOMINAL PREGNANCY

### Report of 2 Cases with a Review of Recent Literature

by

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Advanced abdominal pregnancy is a comparatively rare condition and to have 2 cases within a period of 3½ months, one advanced to full-term and the other to 34 weeks and both babies without any deformities and both alive, the first now more than 4½ months old and healthy and the second now 3 weeks old, with both mothers alive and healthy, is indeed a very rare occurrence and this has induced me to report these two cases with a review of the recent literature.

**Case 1.** G., aged 35 years, referred from Virudunager Hospital as a case of pregnancy with intestinal obstruction, was admitted into my Ward on 3rd July, 1961. Her complaint was rolling pain in the upper abdomen which she had been having for the past four years but worse since the last four months. For the past five months she felt foetal movements apart from this rolling pain. She did not give any history of lower abdominal pain or vaginal bleeding in the early months suggestive of tubal abortion or rupture. The period of amenorrhoea during this pregnancy could not be obtained as she did not menstruate after her last delivery 2 years back.

**Past History.** She had pain in the upper abdomen and acid eructation for the past 4 years, pain was relieved by vomiting.

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During the previous pregnancy, this pain was relieved to a great extent.

**Obstetric History.** She was 7th gravida, 6th para. Previous were all full-term natural deliveries, first still-born, 3rd and 4th died after 1 year. Other 3 alive. All her pregnancies began during the period of lactational amenorrhoea.

On examination, a fairly well-nourished woman, not anaemic, C.V.S. and R.S., N.A.D.; B.P. 120/80; Hb. 65%; abdomen was distended to the size of full term pregnancy, slightly tender and tense. Foetal parts were palpable somewhat superficially. Exact presentation and position could not be made out. Braxton Hicks contraction could not be felt. Foetal heart audible.

**P.V.** Cervix rather long and uneffaced, somewhat firm, and directed forwards and internal os tightly closed. Body of the uterus could not be definitely made out. No foetal parts felt on palpation through the fornices. **P.R.** The size of the uterus could not be made out nor any foetal parts.

**X-ray Report.** "Foetal head unusually clearly seen. Intermingling of intestinal gaseous shadows with foetal parts. Uterine wall surrounding the foetal part not visualised."

**Pitocin test** was done: 2 units of pitocin diluted in 20 c.c. of glucose was given I.V. very slowly 1 to 2 c.c. at a time while the abdominal mass was palpated. No contractions were palpable even after the whole 20 c.c. was given. So, it was thought to be probably a case of abdominal pregnancy.

Under gas and oxygen anaesthesia, abdomen was opened. On opening the peritoneal cavity, a few ounces of fluid escaped and the foetus was found lying free in the peritoneal cavity with the back anterior

and head above the brim of the pelvis. There was no sac at all. The parietal peritoneum was found thickened and flecks of vernix caseosa found in the fluid in the peritoneal cavity. The uterus was found enlarged to about 14 weeks' size. The right tube and ovary were normal. The left tube and ovary could not be seen. The placenta was found badly adherent to the small intestines on the left side, and appeared much thicker than normal. There was slight bleeding from the margin of the placenta which was controlled by 2 mattress sutures. The cord was ligated close to the placenta and a female baby delivered which breathed and cried immediately. It weighed 6½ lbs. and had no congenital abnormalities. The peritoneal cavity was then cleaned and the abdomen closed in layers without drain. There was only slight blood loss but a blood transfusion was given during the operation as a prophylactic measure. She was given streptopenicillin for 5 days. She had a completely uneventful post-operative period and she was absolutely afebrile from the 4th day of the operation. She had a slight blood-stained discharge per vaginam during the first 4 days and began breast feeding from the third day of the operation.

She was kept in the Hospital for about 2 months for observation because of the retained placenta. All along, she was absolutely afebrile and there was no pain nor tenderness in the abdomen. At the end of this period, urine for Frog's test was negative. Hb. 65%; T.R.B.C. 3.3 mill/c. mm.; total W.B.C. 5200 per cmm.; D.C.: polymorphs 72%; lymphocytes 26%; eosinophils 2%; E.S.R. ½ hour — 16 m.m.; 1 hour 40 m.m.

The placenta left inside the abdomen being rich in thromboplastic material can cause hypofibrinogenaemia and give rise to coagulation defects as in the case reported by Winch and Bryans. But in this case, there was no bruising or bleeding tendencies. Clot retraction was normal and fibrinogen in plasma was 200.4 mgms. %.

She was discharged on 13-9-61. At that time, abdominal examination showed the placental mass as a firm somewhat globular swelling about 5" in diameter just below and to the left of the umbilicus, not pain-

ful nor tender, slightly mobile. P.V. Cervix directed forwards, uterus in mid position, normal in size, fornices free.

The child was feeding well at the breast and its weight was 7½ lbs.

The mother and baby were subsequently followed up till November 18th. They are both doing well. The baby weighed now 11 lbs., is quite healthy and active, mother also is quite well and healthy. There is slight reduction in the size of the placental mass. There is no pain nor tenderness over the area.

**Case 2.** A., aged 35 years, was admitted in my Ward on 25-10-61 with a history of about 8 months' amenorrhoea and vague pulling pain in the abdomen for past 5 months, worse since 1 month; no history of vaginal bleeding or lower abdominal pain in the first trimester.

**Obstetric History.** 5th gravida, previous four full term natural deliveries; all 4 children alive. General condition fairly well-nourished; anaemic,—C.V.S. and R.S., N.A.D.; B.P. 112/90, Hb. 45%; T.R.B.C. 2.2 mill/cmm. Abdomen was distended to about the size of 34 weeks' pregnancy. Foetal parts felt rather superficially. Uterus could not be definitely made out. No Braxton Hicks contractions. Foetal heart audible.

**P.V.** Cervix felt high up behind the symphysis pubis, body of the uterus could not be made out. Foetal head felt in the lower part of the pelvis between the vagina and rectum.

Suspecting it to be probably a case of abdominal pregnancy, she was sent for X-ray, but X-ray reports, "No definite suggestion of extra-uterine pregnancy, no overlapping of foetal parts over the spine in the lateral view.

Pitocin test was done. The abdominal mass did not show any contraction. So, a laparotomy was done and on opening the peritoneal cavity the uterus was found enlarged to about 12 weeks' size pushed up and to the left and posteriorly by the placenta which was filling the right broad ligament, firmly adherent to its anterior layer, right tube and right lateral wall of the uterus. Right ovary was not seen. Left tube and ovary appeared normal. The posterior layer of the right broad ligament

was found torn apart and the foetus was found lying posterior to it, free in the peritoneal cavity without any sac surrounding it and with its head deep in the pelvic cavity. A slightly asphyxiated female child was delivered and a total hysterectomy done with the attached placenta and right tube. The omentum was found thickened and deeply stained with meconium. The baby was easily revived. It weighed 4½ lbs. and had no deformities.

So this was evidently an intra-ligamentous pregnancy which had ruptured into the peritoneal cavity through the posterior layer of the broad ligament and continued to grow as a secondary abdominal pregnancy.

During the operation, she was given blood transfusion and later strepto-penicillin for 6 days. She had an uneventful post-operative period. The child is feeding well at the breast. The mother and baby discharged in good condition on 18-11-61.

Advanced abdominal pregnancy is one of the most dramatic and dangerous complications of pregnancy both to mother and child. The great interest shown in this subject can be seen from the large number of papers published. There had been several excellent reviews and reports of cases. Cornell and Lash in 1933 published a review of 226 cases reported in literature from 1919 to 1932 together with 10 cases of theirs, Hellman and Simon in 1935 of 311 cases reported from 1809 to 1933 with 5 cases of theirs. Ware in 1948 of 249 cases reported since 1933 with 13 cases of his. Beecham and Beecham in 1946 reviewed 130 cases including 20 cases of theirs. In 1951, Hibbard reviewed 23 cases, Cross et al 19 cases and McGregor 11 cases. In 1954, Gordon King reported 12 cases of his over a period of 21 years. Charlewood and Culiner in 1955 reviewed 52 cases; Yahia and Montgomery, in 1956, 8 cases; Crawford and Ward in

1957, 10 cases; and Drury in 1960 reviewed a collected series of 209 cases.

One of the earliest cases of abdominal pregnancy was recorded about 1000 years ago by Albucasis, quoted by Gordon King, in which it formed an abscess and burst through the umbilical region. The first operation for removal of an abdominal pregnancy in America was performed by John Beard in 1759.

Almost all cases of abdominal pregnancy are secondary resulting usually from intra-peritoneal rupture or abortion of a tubal pregnancy with sufficient attachment of the placenta to the tube, for nutrition of the growing foetus, in other cases Eastman says the ovum apparently escapes entirely from the tube after rupture and implants itself de novo at any site in the peritoneal cavity. Secondary abdominal pregnancy may occasionally result from silent rupture of a uterine scar or rupture of an intra-ligamentous pregnancy. Primary abdominal pregnancy is extremely rare. E. L. King in 1932 reported 4 cases, associated with post-operative separation of the uterine wound of a previous caesarean section, in 3 the ovum getting implanted in the omentum filling the uterine defect and in the 4th, on the abdominal wall. Studdiford reported one case in 1942.

Baldwin (1954) divided abdominal pregnancy into 2 types. (1) Extragenital, where it is entirely separate from the structures of the genital tract, either primary or secondary to a tubal abortion. (2) Transgenital, where it occurs after rupture of a tubal pregnancy or uterine scar. According to him, the transgenital may become completely separated

from its genital source of nutrition and become secondary extra-genital abdominal pregnancy and that most of the abdominal pregnancies occur in this way.

Ware and King considered abdominal pregnancy advanced only if it is 28 weeks or more, while Yahia and Montgomery, if 20 weeks or more; and Clarke and Bourke, if 12 weeks or more.

Incidence 1 in about 15,000 pregnancies according to Eastman. It is found more common in women over 30 years. Several authors found a period of infertility preceding this.

*Diagnosis.* Correct diagnosis is made pre-operatively only in about 35 to 50% of all cases and this is mainly due to the fact that because of its rarity, it is not thought of. Yahia and Montgomery reported a case where a patient, complaining of rectal pain on examination, showed a part of foetal skull obstructing the rectum and subsequent X-ray studies showed remnants of foetal cranial bones in the peritoneal cavity and her history showed that a missed abdominal pregnancy had occurred 14 years before. In the majority of cases, a history suggestive of tubal abortion or rupture will be available.

Differential diagnosis has to be made from accidental haemorrhage, ruptured uterus, labour and false labour, sometimes from saculation of the uterus, especially when cervix is displaced upwards above the symphysis, and the foetal head is felt low in the pelvis between the vagina and rectum. A twisted ovarian cyst, torsion or degeneration of fibroid with pregnancy or surgical complications in pregnancy, may sometimes simulate it.

Palpation of the foetal parts superficially, absence of Braxton Hicks contractions, high position of the foetus in the abdomen, palpation of the uterus separate from the gestation sac, are all helpful signs in diagnosis.

Vaginal examination usually shows a long, uneffaced cervix, fairly firm, and closed.

X-ray is of great value. It may show the high position of the foetus far above the pelvic brim often in transverse or oblique lie, unusually clear foetal parts, absence of the outline of the uterine wall surrounding the foetus, foetal parts lying posterior to the lumbar vertebrae in a true lateral view, maternal intestinal gas shadows overlying and beneath the foetus.

Pitocin test has been found useful. Cross et al considers it as the most valuable single aid in diagnosis.

*Hystero-salpingogram.* King considers it to be of utmost diagnostic importance but Mitra, Mattingly and Menville have pointed out that it is not always absolutely confirmatory. Moir states that though it has proved useful, to venture so far, one must almost have reached a diagnosis by more ordinary clinical methods. McGregor hesitated to do it because of the danger of premature labour or abortion if pregnancy proves to be uterine. Greenhill advocated its use, when the foetus was dead, but the dead foetus as McGregor says, might be intra-uterine, when there is the danger of sepsis. According to Te Linde, it may be used when abdominal pregnancy is strongly suspected but it must be avoided, if there is any probability of its being uterine.

Insertion of a uterine sound into the uterus to measure its depth and X-ray taken with the sound in the uterus have also been advocated, but there is danger of perforation of the uterus. Charlewood and Culiner reported a case where the sound passed through the uterine fundus into the gestation sac and infected and caused foetal death. They have proposed aortogram as a conclusive diagnostic aid.

*Treatment.* The majority of authors, like Eastman, Moir, advocate immediate laparotomy irrespective of the period of gestation or condition of the foetus because of the risk of subsequent rupture of the gestation sac, or premature separation of the placenta with intra-peritoneal haemorrhage. Death of the child may occur before term from haemorrhage or inadequacy of placental circulation. Cornell and Lash found in their review of 236 cases that about 55% of foetal deaths occurred during 8th and 9th month and concluded that foetal salvage would have been greater if earlier detected and operated. De Villiers analysing 31 foetal deaths found that more than 50% died during the 40th week. Further there is a high incidence of congenital deformities in the foetus. But others, like Charlewood and Culiner, McGregor, King, Yahia and Montgomery, advocate postponement of the operation till about 36 to 38 weeks if the child is alive and the patient is in good condition and is co-operative and can be kept in an Institution under careful supervision.

Stromme et al (1959) reported a case of abdominal pregnancy treated on conservative lines from about the 6th month onwards because of the

strong desire of the patient and her husband to obtain a baby after 12 years of infertility and delivered a live baby at term. But the hazards of expectant treatment are unpredictable and grave.

During operation, Greenhill cautions to open the abdomen very carefully as foetal sac, omentum, intestines and even placenta may be just underneath, with large, fragile blood vessels. The management of the placenta is the most difficult problem. Severe haemorrhage may occur during its removal as there is no mechanism to occlude the hypertrophied vessels of the placental site. If it is not attached to any vital organ like the intestines and if its blood supply can be completely controlled, then only it should be removed; otherwise it should be left in situ after ligating the cord close to it and delivering the baby and the abdomen closed without drain. Ever since Beck advocated this in 1919, it has been almost universally accepted. Bright and Maser advise not to tie the cord for fear of cyst formation. Greenhill cautions against assuming that the placenta will be easy to remove because the baby is dead and where secondary removal of placenta is found necessary, he advises to wait beyond the time, when the biological test is negative. King quotes 2 cases of Ware in which Friedman's test was positive 35 and 37 days after removal of a live baby. In Charlewood's series, severe haemorrhage and shock occurred in 4 cases while removing placenta which was thought long dead and caused death in two of them. Tanenblatt encountered severe haemorrhage when he attempted to remove the placenta 57

days after delivery of a baby, and Lull could remove only a portion of placenta even after 2 months of delivery. In the majority of cases, the placenta gets completely absorbed, though it may take years. In one of Ware's cases, placenta had completely disappeared when a caesarean section was done 27 months later. But King found in one of his cases, it did not disappear even after 3½ years. Millen reports a case where remnants of placenta was found 32 months after delivery of the baby. Reed found residual mass attached to a pedicle in the right adnexa during a caesarean section 4 years later. Total removal of the placenta is the most dangerous. It has the highest mortality but the lowest morbidity. But if the placenta is left inside, there is risk of sepsis, occasionally cyst formation and calcification. In Charlewood's series, in 18 of the cases where placenta was left in situ, there was no death and no haemorrhage, but in 13 of these cases sepsis occurred and in 2 of these, the placenta was extruded through the abdominal wound. In this series of 52 cases 6 of the 7 deaths were due to haemorrhage associated with removal of the placenta.

**Maternal Mortality.** In Cornell and Lash's series of 336 cases, 14.3%; in Hellman and Simon's series of 316, 31.9%, in Ware's 249 cases, 14.85%; in De Villiers 77 cases, 5.2%; in Beecham's 20 cases, 5%. Drury in his recent collected series of 209 cases found the average mortality 10.2%; in McGregor's series of 11 cases, nil.

**Foetal Mortality.** In Ware's series of 249 cases, 75.6%; Beecham's series of 130 cases, 85%; in Cornell and

Lash's series of 336 cases, 67.3%; in Yahia and Montgomery's series of 8 cases, 62.5%.

Suter and Wischer (1948) found that only about ¼th of all extra-uterine pregnancies diagnosed after the 5th month of gestation will result in viable living babies, about 1/3 of all these living babies will have major or minor deformities and about ½ of all viable living babies delivered, will survive 8 days or more.

Bright and Maser (1961) after a review of the whole literature concluded that there is about 25% chance of survival for the foetus and 10% chance of being normal, that foetal deformities ranged from 37 to 75%, and that the total number of authentic cases of term secondary abdominal pregnancies with living mother and living child is 12.

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Fig. 1

Case No. I. Clinical Photograph of the baby now 4½ months old, held by her mother.

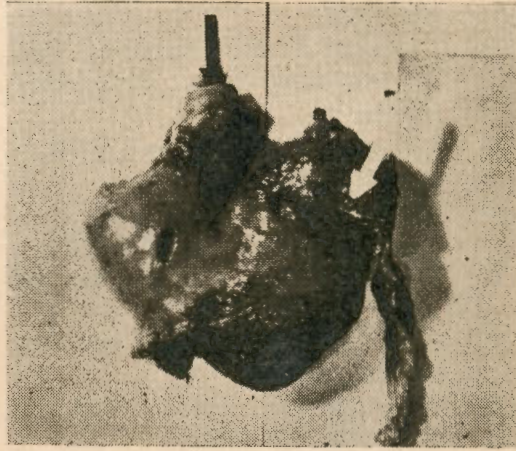


Fig. 2

Case No. II. Uterus with the placenta attached to its right lateral wall and to the anterior layer of the right broad ligament. (Photograph immediately after operation).



Fig. 3

Clinical photograph of the baby now 3 weeks old.