

# A CASE OF ADVANCED ABDOMINAL PREGNANCY WITH VIABLE FETUS AT TERM

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## CASE REPORT

We present a case of advanced abdominal pregnancy that resulted in a term live baby without malformations. A 21-year-old primigravida one was admitted through outpatient department with period of gestation of 37+2 weeks by 19-week scan, decreased amount of liquor, small for gestation fetus with transverse lie. According to the detailed history of the patient, she conceived spontaneously. She did not confirm her pregnancy by pregnancy test or ultrasound, close to the time of her missed period she experienced an episode of severe lower abdominal pain followed by an episode of vaginal bleeding for one day which was red in color. In the fourth month of her pregnancy she had an episode of severe abdominal pain, she was taken to a local hospital and an ultrasound was done for the first time, which confirmed an intrauterine pregnancy of nineteen weeks, for the pain she was given injectable pain killers. During the rest of her pregnancy she constantly used to have abdominal pain periodically for which she would take pain killer and antacid in oral form. There was no further episode of vaginal bleeding. At ninth month she had an ultrasound scan which showed markedly reduced liquor, intrauterine growth retardation and transverse lie. She was admitted in tertiary center for Caesarean section for transverse lie of a small for gestation fetus.

On general physical examination, the patient was stable. Vital signs were within normal range. The abdominal examination revealed symphysis-fundal height of 33cm, transverse lie, foetal heart rate of 136 beats per minute and no uterine contractions. Vaginal examination revealed posterior un-dilated cervix measuring 2cm. There was no vaginal bleeding. She had one ultrasound scan examination within seven days of presentation indicating intrauterine gestation, markedly reduced liquor with transverse lie. The rest of her investigations were normal. The haemoglobin level

was 10.4g/dl and blood group was O Rhesus positive. She was booked for emergency caesarean section on account of transverse lie with markedly reduced liquor at term.

At laparotomy the following findings were made: An intact gestational sac was found in the peritoneal cavity with grade 3 meconium stained liquor. There was no haemoperitoneum. A female baby was delivered with an Apgar Score of 4 and 6 at 1 and 5 minutes respectively, weighing 2200 g. No gross structural abnormality was reported. The baby had aspirated meconium stained liquor, but responded to suction followed by bag and mask resuscitation. She was then admitted to the neonatal unit for on-going care. The uterus was 12-week size. The left tube and ovary were normal but the right ovary and tube was not identified. Other abdominal organs were normal. The placenta was extensively adherent to the right broad ligament region of the uterus, the amniotic sac was attached to omentum, caecum, ileum, ilio-caecal junction and ileal mesentery. The vascular connection was with the right uterine artery.

There was significant bleeding from detached portions of the placenta, which required removal of the detached placenta tissue to facilitate hemostasis. The adherent gut to the placenta was freed through adhesiolysis, and right adnexectomy, right salpingo-oophorectomy and excision of the right broad ligament was done. The utero-rectal fossa could not be exposed, the appendix was incorporated in the amniotic sac and appendectomy was done to release it. A small part of the placenta, deep in the base of broad ligament was left in situ. A 400 g placenta was delivered following careful dissection of tissue planes. Haemostasis was eventually achieved; the estimated blood loss was 2000 ml and the patient became hypotensive intra-operatively with blood pressure levels dropping as low as 80/40 mmHg. Packing of the placental bed was done with four large abdominal packs which were removed after 48 hours. The patient was successfully resuscitated with crystalloids, three units of packed red blood cells and 4 units of fresh frozen plasma and was kept in the intensive care on ventilator support for 24 hours. The therapeutic challenges were as follows: the young age

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of the patient and nulliparity. The cataclysmic hemorrhage originating deep in right broad ligament, to be controlled without compromising her obstetric future. The patient progressed well and was discharged on the fifth postoperative day. All investigations by the general pediatricians did not show any abnormality in the baby. She was followed up weekly for four weeks. Abdominal ultrasound after six weeks showed normal size uterus and the portion of placenta that was left in situ was not identified. Beta human chorionic gonadotropin (BhCG) was negative at the same period.

## **DISCUSSION**

Abdominal pregnancy reaching term with a healthy viable fetus is an extremely rare condition with only a few cases being published in literature. The incidence of abdominal pregnancy differs in various publications and ranges between 1: 10000 pregnancies to 1:30,000 pregnancies<sup>1-2</sup> Abdominal pregnancy is classified into two types. Primary abdominal pregnancy where implantation of the fertilized ovum occurs directly in the abdominal cavity. In such cases, the Fallopian tubes and ovaries are intact. Secondary abdominal pregnancy occurs following an extrauterine pregnancy that ruptures and gets re-implanted within the abdomen, there is no evidence of tubal or ovarian damage. The possible sites of abdominal pregnancy include the omentum, pelvic sidewall, broad ligament, posterior cul-de-sac, abdominal organs (spleen, liver, bowel, etc.), pelvic vessels, and diaphragm.

Advanced abdominal pregnancy (AAP)<sup>3</sup> is defined as abdominal pregnancy that has progressed beyond 20 weeks of gestation in which the fetus is growing and developing in the mother's abdominal cavity, or the fetus shows signs of having been in the mother's abdominal cavity. It is an extremely rare obstetric event with high maternal and perinatal mortality. In 1942, Studdiford<sup>4</sup> established three criteria for diagnosis of a primary peritoneal pregnancy: the presence of normal tubes and ovaries, no evidence of uteroperitoneal fistula, and the presence of a pregnancy related exclusively to the peritoneal surface and early enough in gestation to eliminate the possibility of secondary implantation after primary nidation of the tube. Watrowski et al.<sup>5</sup> recently expanded the classic Studdiford criteria.

The case was not diagnosed till laparotomy despite the fact that the patient had her first scan at 19 weeks and three scans by independent sonographers at 31 and 36 weeks of gestation. Thus, the case evaded diagnosis, as described in several reports by Eleje et al.<sup>6</sup>. The cause of failure to diagnosis can be poor ultrasound skill, poor obstetrical clinical skill and failure to have a high level of suspicion in complicated pregnancies. Diagnosis of an extrauterine abdominal pregnancy is important as it is associated with a very high maternal mortality rate, about five per 1000 cases, approximately seven times higher than the estimated

rate for ectopic pregnancy. Survival of the newborn is also affected with a perinatal mortality rate of 40% to 95%<sup>7</sup>. About 21% of babies born after an extrauterine abdominal pregnancy have birth defects, presumably due to compression of the fetus in the absence of the amniotic fluid buffer. Typical deformities include limb defects, facial and cranial asymmetry, joint abnormalities and central nervous malformation<sup>8</sup>.

Ultrasonography, remains the main method for the diagnosis of extrauterine pregnancy. Allibone et al.<sup>9</sup>. Has given guidelines for improved ultrasound diagnosis. These are; no uterine wall surrounding the fetus, fetal parts that are very close to the abdominal wall, abnormal lie and/or no amniotic fluid between the placenta and the fetus, the gestational sac out of the uterus, without uterine wall between the foetus and the bladder. Abnormal relationship between the placenta and abdominal organs. Unfortunately, echography is an operator-dependent examination that could miss the diagnosis of abdominal pregnancy like in our case. Ultrasound diagnostic error in a series of case reports has been found to range from 50 to 90 %<sup>10</sup>. Inadequate training in obstetric ultrasound can result in failure to detect such asymptomatic cases. A focused early first trimester ultra sound and magnetic resonance imaging improve diagnosis. MRI is also used to assess the degree of placental adherence and penetration of the underlying tissues<sup>11-12</sup>. These technologies are however not readily available in resource limited settings.

Clinical features suggestive of abdominal pregnancy include; easily palpable foetal parts, tenderness, malpresentation, growth restriction, reduced liquor volume and persistent abdominal and/or gastrointestinal symptoms during pregnancy<sup>13</sup> Failed induction is a recognized feature of abdominal pregnancy and should be a warning sign to re-evaluate a patient. Consensus in obstetric practice is to terminate the pregnancy if diagnosed prior to 20 weeks. Conservative management can be considered if abdominal pregnancy is diagnosed after 20 weeks of gestation. The delivery is scheduled at 34 weeks of gestation. The mother should be well informed of the risks and benefits, and kept under close surveillance. She should be hospitalized with 24 h access to anaesthesia, surgery and blood products. Growth restriction or congenital anomalies are common and should be excluded and the placental implantation should not extend to the upper abdomen<sup>14-15-16</sup>. The main treatment of advanced abdominal pregnancy is surgery. The main issue is how to manage the placenta. Ligation of the umbilical cord and leaving the placenta in situ are preferred by many due to the life-threatening maternal hemorrhage that may follow placenta removal. The patient can be monitored closely with no further treatment or with active intervention using arterial embolization or mifepristone / methotrexate therapy can be given to the patient postoperatively to accelerate involution and patient monitored for the decrease in size of the residual placenta

An alternative approach is to ligate the placental blood supply and then try to remove the placenta<sup>17-18</sup>. This is mainly done if the placenta is not attached to a major structure. Uterine artery embolization can be performed pre-operatively to minimize blood loss. Placental vascular embolization facilitates resorption of a placenta that is left in situ. The procedure however, predisposes the mother to ileus, sepsis and intestinal perforation. The decision whether to remove the placenta or leave it in situ should therefore be considered on a case by case basis following careful assessment of the implantation site.

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Following authors have made substantial contributions to the manuscript as under:

**Gilani S:** Contributed to the conception, study design, acquisition of data and drafting the manuscript.

**Syed M:** Helped in analysis and interpretation of data collection.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.