

Secondary abdominal pregnancy following silent uterine rupture of five-fold cesarean section scar during early pregnancy

- a case report -

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Abstract

Abdominal pregnancy is a relatively infrequent form of ectopic pregnancy; its diagnosis is difficult even with the routine use of abdominal sonography in daily obstetrical practice. Secondary abdominal pregnancies are generally due to the intraperitoneal translocation of the fetus following a tubal rupture; they may also develop, however, as a result of a dehiscence resulting from rupture along the scar of a previous cesarean section or the rupture of a rudimentary horn. Abdominal pregnancy being generally asymptomatic, routine obstetrical history, physical examination and abdominal ultrasound may fail to elicit subjective elements that could allow a differential diagnosis from intrauterine pregnancy. Our paper presents the case of a patient of ours with a history of five cesarean sections, in whom the last pregnancy continued in the peritoneal cavity following a scar rupture, probably during the first trimester, and resulted in fetal death in the 22nd week.

Keywords: secondary abdominal pregnancy, uterine rupture, fetal death

Introduction

Abdominal pregnancy, a relatively infrequent form of ectopic pregnancy, is difficult even with the routine use of abdominal sonography in daily obstetrical practice. Ultrasound examination may indicate a healthy intraabdominal fetal development. The incidence of this condition is 1.3% according to recent reports^(1,2). Abdominal pregnancy makes up 1% of all ectopic pregnancies⁽³⁾. This type of pregnancy is classified as primary or secondary according to the time of peritoneal implantation, respectively in the peritoneal cavity or after a normal fertilization, the latter being followed by a uterine or tubal rupture^(4,5). The affected woman may be asymptomatic except for minimal discomfort. The abdomen expands as in a normal pregnancy. Maternal mortality may reach up to 20%⁽³⁾. This is due mainly to a hemorrhage that may develop as a result of partial or total placental abruption. The placenta may attach itself to the uterus, the bladder, the mesentery and its ligaments, the liver or the spleen and cause massive bleeding at any stage of pregnancy⁽⁶⁾. A correct identification of the placental site may reduce the amount of bleeding by allowing the avoidance of placental incisions⁽⁷⁾. Abdominal pregnancy is a relatively more frequent finding in developed countries because of an increased incidence of pelvic inflammatory disease⁽⁸⁾. We present a case operated with the diagnosis of secondary abdominal pregnancy following a silent rupture of a cesarean section scar during early pregnancy.

Case

A 41-year-old woman (gravida 6, para 5, live 5) in her 22nd-23rd week of pregnancy was hospitalized in our clinic on determining the occurrence of fetal death. The patient was asymptomatic. She reported neither vaginal bleeding nor abdominal pain. The patient had a history of five previous cesarean sections. Physical and ultrasound examination showed the presence of a fetus, compatible with a 21-week pregnancy, and a placenta previa totalis in the anterior region. Amniotic fluid was normal. Gynecologic examination did not disclose the presence of vaginal bleeding or cervical dilatation. Complete blood count and routine blood chemistry were normal. Laparotomy showed a uterus size compatible with a 8 gestational weeks with an approximately 2 cm rupture in the anterior wall. The umbilical cord and part of the placenta were protruding out of this ruptured area. The dead fetus was implanted in an approximately 20 cm area of the small intestine, while placental implantation was both intraperitoneal and intrauterine, totally obstructing the cervical ostium. The amniotic membrane, the omentum and the intestine were adhering very much to each other. The extrauterine portion of the placenta detached itself during its dissection. The fetus, the placenta and the membranes were removed after dissection of the amniotic sac from the small intestines (Figures 1 and 2). The uterine rupture line was repaired. No significant bleeding was observed in the placental bed or the intestinal serous membranes. Surgery was completed by a bilateral tubal ligation. The patient was discharged after five days of postoperative observation.

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Figure 1. Per-operative view of the abdominal pregnancy developing from the uterine rupture. The amniotic membrane and the fetus were dissected away from the intestinal surface, liberated and taken out of the abdominal cavity. Uterus size is compatible with an approximate 8 gestational weeks. An approximately 2 cm-long ruptured area on the old scar area and the umbilical cord attachment are seen (white arrow)



Figure 2. A placental fragment totally covering the cervical ostium is seen within the uterine cavity (small arrow). The placental fragment dissected away from the intestinal surface and the amniotic membranes (large arrow) within the abdomen are shown

Discussion

Secondary abdominal pregnancies are generally due to the intraperitoneal translocation of the fetus following a tubal rupture⁽⁵⁾. There are also, however, published reports of abdominal pregnancies developing the dehiscence along a rupture along the scar of a previous cesarean section⁽⁹⁾ or the rupture of a rudimentary horn⁽¹⁰⁾. The case presented here had also developed a silent rupture of the incision line used for previous cesarean sections, through which the abdominal implantation occurred. The fetus continued to grow in the abdominal cavity following a rupture which occurred probably during the first trimester. The 12 cases of uterine rupture studied by Teng et al.⁽¹¹⁾ had a prior history of cesarean section. A silent rupture was identified in four of these 11 patients⁽¹¹⁾. Our patient, too, reported no symptom to show a uterine rupture. Abdominal pregnancy can progress without being diagnosed until its third trimester or even a live birth of the fetus⁽¹²⁾. The principal reason of mortality and morbidity in clinical situations is reported as being placental attachment to important intra-abdominal vascular structures. The start of hemorrhage in the placental bed may cause a maternal mortality of up to 72%⁽¹³⁾. Abdominal pregnancy being generally asymptomatic, routine obstetrical history, physical examination and abdominal ultrasound may fail to elicit subjective elements that could allow a differential diagnosis from intrauterine pregnancy. Of the 163 cases with a diagnosis of abdominal pregnancy studied by Nkusu et al., 45% only had been diagnosed in the antenatal period, and the authors concluded that the diagnosis of abdominal pregnancy may often be missed⁽¹⁴⁾. Similarly, no symptom was identified in the case here reported; fetal death was determined during routine follow-up. Frequent ultrasonographic features are the absence of uterine wall around the fetus, proximity of fetal parts to the abdominal wall, the absence of amniotic liquid between the placenta and the fetus⁽¹⁵⁾. Leaving in place the placenta is not recommended, due to the increase in postoperative mortality and morbidity⁽¹⁶⁾. If the placenta cannot be entirely removed, the remaining tissue keeps its functionality for 50 days following the operation; placental regression is achieved after a 4-month period⁽¹⁷⁾. In the reported case too, the placenta was not left in

place; no marked hemorrhage was present in either the placental bed or the gut surface.

In conclusion, silent rupture may be encountered in patients with a history of uterine surgery. Abdominal pregnancy following a rupture is easily missed on ultrasound or physical examination. The patients may remain entirely asymptomatic. As, in our case, the risk of rupture is increased by a history of multiple uterine surgeries. Following the first trimester, the fetus continued to grow in the abdominal cavity, out of the rupture area, until the 21st week. Our luck consisted in not encountering marked bleeding from either the placental bed or the intestine surface to which the amniotic sac was adhering. Considering that serious bleeding may be seen in the preoperative and peroperative stages, treatment of these cases must be scheduled with tertiary care centers. ■

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