

Massive Intrapritoneal Hemorrhage after Placental Abruption

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Article information	Abstract
<p>Article history: Received: 28 Oct 2010 Accepted: 21 Dec 2010 Available online: 29 Dec 2011</p> <p>Keywords: Intrapritoneal hemorrhage Placental abruption Trauma Couvelaire uterus</p> <p>*Corresponding author at: Department of obstetrics and gynecology, Zahedan University of Medical Sciences, Zahedan, Iran. E-mail: nsakhavar@yahoo.co.uk</p>	<p>A placental abruption or abruptio placentae (where in the placental lining has separated from the uterus of the mother) is one of the complications caused by trauma during pregnancy. It lets the blood flow to infiltrate in the uterine lining and to develop Couvelaire uterus (also known as uteroplacental apoplexy) and uterine atony (a condition in which a woman's uterine muscles lose the ability to contract after childbirth); however, it rarely develops considerable hemoperitoneum which needs hysterectomy. In this report, a unique case of placental abruption caused by trauma in a 28-year-old Afghan woman is introduced in which severity and duration of trauma because of delay in reaching health equipped center led to developing massive hemoperitoneum (infiltration of great amount of blood into the abdominal cavity) and its complications.</p>
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Introduction

Any trauma during pregnancy, particularly after the second trimester may cause to premature loosening of the placenta, in mild cases, the hematoma behind the placenta is small, so often no risk threats fetus and mother and the uterine contractions can be improved through resting and fluid therapy and mother will find her health completely. However, in the severe cases, placental abruption will lead to the uterine bleeding, uterine hypertonicity (continuous and painful uterine contradictions), fetal heart rate drop and in some case death of fetus or even mother [1]. When placental abruption occurs, blood flow infiltrates the myometrium (smooth muscle of uterine lining) from the behind of the placenta and sometimes covers the whole diameter of the myometrium and brings it into dark red color which is called Couvelaire uterus; but fortunately couvelaire uterus very rarely involves with the effective uterine contractions after delivery which are led to the uterine atony and further bleeding after delivery [2].

Case Report

A 28-year old Afghan woman in her 36th week of the fifth pregnancy referred to Ali-Ibn-Abitaleb Hospital subsequent to trauma along with a severe vaginal bleeding; her blood pressure and pulse rate were 60.40 and 125 beats per minute, respectively. She was in a critical condition and so agitated and worried. She was pale during examination, her uterus was completely in hypertony state and fetus

heartbeat was not hearable with stethoscope and the emergency ultrasound did not show any vital signs for fetus. Examination of uterine lining showed improper dilatation and effacement. The results of the preoperative tests were Hb: 5.3, PTT: 35, and PT: 13. The patient has been deprived from prenatal cares. Because there was a long time till the normal delivery and detrimental nature of oxytocin intake because of her low blood pressure and critical condition, doctors decided to conduct the emergency Cesarean delivery. When she moved to the operation room, some proper blood products were requested, after imposing general anesthesia and making incision over the abdomen, a great deal of blood (2 liters) was seen in the abdominal cavity and since surgical consultation was practiced. The dead fetus and placenta which has been completely separated and blood clots were removed from the uterus. The uterus has become purple and completely atonic because of blood infiltration around its muscles. Regarding the fact that three children of the patient had been died and the fourth one had been lost and also given the possibility of improving the Couvelaire uterus, the preservative measures, drug conservative measures and surgery including medication and uterine vascular and muscular tightening methods were conducted, but because of atony and continuous severe uterine bleeding and the

necessity of rescuing the patient we had to try hysterectomy. The patient hospitalized for three days after surgery and finally was released when physicians became sure of her general positive condition.



Figure 1. Surgical drainage of massive hematoma

Discussion

Because of late refer to hospital, premature loosening of the placenta brought about some severe and noncompensable complications including hemoperitoneum and hysterectomy. Placental abruption is a complication which is caused by penetrating or non-penetrating traumas in the pregnant women. It is strengthened with several factors including high age, frequent pregnancies, frequent fetuses in a single pregnancy, high blood pressure during pregnancy, smoking and drug abuse during pregnancy, consuming some drugs, penetrating or non-penetrating traumas etc [3]. The most common symptom of the placental abruption is the vaginal bleeding (78%) which is followed by pain in uterus or back area (66%), fetus heart rate drop (60.5%), frequent uterine contractions (17%), uterine continuous contraction (17%), premature labor pains (22%) and fetus death (15%) [4]. our patient has referred to hospital while suffering from vaginal bleeding, uterine continuous contractions and pain and fetus death. It seems that race and ethnicity are important in developing placental abruption. In a study on 169000 deliveries recorded in Parkland Hospital, the placental abruption was higher in African-American and Caucasian women (1 in 200 deliveries) rather Asian women (1 in 300

deliveries) and Latin American women (1 in 450 deliveries) [5].

The external trauma was considered as a rare cause for developing the placental abruption, as only 3 cases out of 207 the placental abruptions caused by trauma had led to death of fetus [6]. In our report, the external trauma was non-penetrating but severe which has brought about the placental abruption and hence death of the fetus. For our patient, the coagulative tests were normal but the hemoglobin rate was very low.

Blood accumulation behind the loosened placenta may lead to gradual infiltration of blood into uterine muscular tissues which make the uterus purple which is called Couvelaire uterus. Sometime, blood infiltration beneath the tubal serous around the connective tissue of the broad ligaments and ovarian tissue and even in the abdominal cavity is seen which is rarely found considerable [3]. However, for our patient we found a great deal of blood within the abdominal cavity before opening the uterine, which was due to late diagnosis of the placental abruption and blood lysis and then infiltration of blood through uterine tubes into the abdomen; it can bring about peritonitis which loosens the uterus in a way that is not curable. If the placental abruption is so severe that cause death of the fetus, then its prevalence will be less than one in 1550 deliveries [7]. Macio hemoperitoneum subsequent to the placental abruption is very rare [8].

Conservative treatments are usually effective for treating Couvelaire uterus because such treatments do not develop loosening resistant to uterine treatment; however, in cases in which the placental abruption is severe and particularly when the patient refers to medical centers very late, clot lysis behind the placenta let the blood infiltrate the abdominal cavity through uterine tubes and the developed peritonitis will lead to irreversible uterine loosening and the only solution for this condition is hysterectomy.

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Authors' Contributions

All authors contributed in all stages of the study.

Conflict of Interest

No conflict.

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