Case Report

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Delay in the Diagnosis of Rupture of the Uterus due to Epidural Anesthesia in Labor

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Key Words

Epidural anesthesia
Uterine rupture
Hematoma of parametrium

Abstract

A case report of uterine rupture in labor with epidural anesthesia is presented. The woman had good analgesia on the left side, but complained of severe labor pains on her right side. Uterine rupture occurred which was manifested by sudden vaginal bleeding, fainting, low blood pressure and fetal distress. She did not feel any pains typical of uterine rupture. Rupture of the left uterine wall, with a large hematoma in the left parametrium was seen at surgery. It seems that unilateral anesthesia of the left side concealed the early signs of rupture.

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Introduction

Rupture of the uterus continues to be a major cause of maternal mortality. Dewhurst [1] emphasized the usefulness of lower abdominal pain and tenderness as symptoms leading to the early detection of uterine rupture in patients with a history of previous cesarean section.

Suprapubic pain is considered by some authors to be an important warning sign of impending uterine rupture and this sign may be masked by epidural analgesia [2-4].

Controversy exists concerning the use of epidural anesthesia in labor, in cases with previous cesarean section. McGarry [5] recommended against its use in most circumstances. On the other hand, Cheek and Gutsche [6] prefer the use of epidural anesthesia in women undergoing trial of labor following previous cesarean section, because it preserves the signs of impending uterine rupture. Many other authors suggest that the use of epidural analgesia in the management of vaginal delivery after previous cesarean section is a safe approach [6-9]. Eckstein et al. [10] and Maouris and Macrow [11] demonstrated that the degree of epidural analgesia that is adequate to relieve normal uterine contractions is quite tenuous and insufficient to block the intense pain of severe rupture.

The following case report illustrates that epidural analgesia blunted the patient's perception of early symptoms of uterine rupture.

Case Report

A 38-year-old woman, gravida 6, para 3, abortion 2, was admitted to the delivery room in the 37th week of her pregnancy, because of premature rupture of membranes. Past medical history was uneventful, with the exception of appendectomy at the age of 20.

Physical examination revealed: blood pressure (BP) 110/70 mm Hg, pulse 68 beats/min regular. The size of the uterus was appropriate for gestational age. Fetal heart rate was monitored continuously with external cardiotocograph and was normal.

Five hours after admission the patient had only mild uterine contractions. Pitocin augmentation was started and due to the appearance of variable decelerations with variability of more than 5 beats/min, the Pitocin was stopped and the decelerations disappeared. Uterine contractions continued, and as they became more intense, and the woman suffered pains, epidural anesthesia was recommended, although the cervix was less than 2 cm dilated, elongated and not effaced. Epidural anesthesia consisted of 7 ml marcaine

0.5% which was introduced in the intervertebral space L2-3. Twelve hours from admission (2 h after performing the epidural anesthesia), the cervix was dilated to 2 cm and still uneffaced. Pitocin was started again (up to 6 mIU/min). The patient felt irregular painful contractions only on her right side. She did not feel any pains on her left side. On examination 1 h later (13 h from admission), the cervix was completely effaced and 4.5 cm dilated. The patient still complained of pain only on her right side. Several minutes later variable decelerations with good variability reappeared. At that stage, the patient complained of a 'fainting feeling', sudden severe weakness and no abdominal symptoms at all. Her systolic BP was 70 mm Hg, pulse 110 beats/min. Moderate vaginal bleeding appeared and fetal brady-cardia of 60 beats/min was observed. Sudden severe abruptio placentae or uterine rupture was suspected, and the patient was taken immediately for cesarean section under general anesthesia. At surgery, a large hematoma of about 15 cm diameter was found in the left parametrium. A classical incision was made in the uterus and a male infant weighing 3,050 g was delivered. The Apgar score at 1 and 3 min was 1 and 5, respectively.

Following delivery of the placenta, rupture of the left lateral uterine wall and bleeding from left uterine vessels were noted. The vessels were clamped and sutured and the uterine wall repaired. The patient was treated with 4 units of packed cells. BP rose to 110/70 mm Hg. The postoperative course was complicated by fever up to 38 °C, lasting 14 days which did not respond to septrin per os, and was attributed to the absorption of the parametrial hematoma. After 3 weeks the mother and child left the hospital in good health.

Discussion

This case report demonstrates that rupture of the uterus and large parametrial hematoma in labor with epidural anesthesia can occur without the warning pains which are usually felt by the patients.

In this case the analgesia was not complete. The woman felt the uterine contractions only on the right side. The rupture and the hematoma were on the left side. The suspicion of uterine rupture arose from the hemodynamic deterioration of the woman, sudden vaginal bleeding and fetal distress. All of these are late signs of uterine rupture. The early sign of uterine rupture, which is severe agonizing suprapubic pains (even between uterine contractions), was not manifest.

It is possible that the procedure of epidural anesthesia can cause various forms of analgesia, which depends on the area of anesthesia, the type, amount and concentration of anesthetic material introduced. Camus et al. [12] define certain rules that should be carried out to lessen the incidence of uterine rupture, or to diagnose it earlier when epidural anesthesia is administered. He suggests that small doses with low concentrations of anesthesia should be used. Physicians should be aware of the cumulative effect of adding anesthetic dose upon dose. Morphine or morphine-like substances should either be used carefully or forbidden altogether. These

precautions will limit the quantities of epidural analgesics that are delivered so that it is easier to recognize the signs of impending rupture of the uterus.

We conclude that epidural analgesia can be used during delivery, including patients with previous cesarean section, provided that it is used in such a way that it will not blunt the early signs of uterine rupture.

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