Case Report

Death Due to Rupture of the Uterus in a Full Term Primigravida

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Abstract:-
Rupture of uterus during pregnancy is an unexpected, relatively uncommon occurrence in the general obstetric population and a catastrophic complication which may prove fatal to the mother as well as the foetus. It is commonly diagnosed with a history of previous scar on the uterus but rupture of the uterus in a full term primigravida with no high risk factors during pregnancy or labour is extremely rare. This rarest obstetric complication cannot be ignored and needs to be diagnosed as early as possible and treated promptly otherwise it may invite legal implications of simple or criminal negligence against the medical professionals.

Key Words:- Rupture uterus, primigravida, criminal negligence, ante-mortem, cesarean section, cephalo pelvic disproportion, laparotomy, placenta accreta, multiparity.

Introduction

Uterine rupture is tearing of the uterine wall during pregnancy or delivery [1]. It is one of the life threatening obstetric emergencies, with a significant effect on the reproductive function of women. Uterus can rupture during pregnancy or delivery. It is commonly encountered in a case of previous caesarean section but rupture in a primigravida with no reported high risk factors is extremely rare. In this current case study we are reporting a case of primigravida, with full term pregnancy which had spontaneous rupture of uterus in latent phase of labour with fatal outcome as death of the mother as well as the full term female fetus.

Case Report

A full term primigravida female aged 22 years was admitted with labour pains on 7.1.2017 in a government hospital in Patiala city that died during labour pains on 9.1.2017 at 6.45 PM. Not satisfied with the treatment at the hospital, her husband complained to the police with a request for postmortem to ascertain the cause of her death and to fix the responsibility for any negligence of the hospital authorities. The dead body was brought to the mortuary of Rajindra Hospital under Government Medical College Patiala by the police for postmortem examination. On police request, a board of four doctors including two forensic medicine experts, one gynecologist and one physician was constituted for postmortem examination. The postmortem findings included:-

- It was dead body of a well built female with length 60 inches. Rigor mortis was present all over the dead body. Post mortem staining was fixed and present on the back except pressure areas. Generalized pallor of the dead body was present along with peripheral cyanosis.
- Normal changes of pregnancy were visible in nipples, areola and breast. Abdomen was enlarged. Fetus was palpable on right side of abdomen in an oblique position.
- On dissection, abdominal cavity was full

of dark liquid and clotted blood; uterus was ruptured with the fetus lying outside the ruptured uterus. The full term female fetus was lying in the right side of abdominal cavity in oblique position with placenta attached to the uterine wall. The length of the fetus was 20 inches with weight 3.5 Kg. The ruptured uterus also contained blood.

- Stomach was empty along with all other organs in chest and abdomen including lungs, liver, including spleen and kidneys were pale and the heart was empty.
- The cause of death was declared as hemorrhagic shock from ante-mortem rupture of uterus which is sufficient to cause death in the ordinary course of nature. The probable time between death and postmortem examination was given as 12 to 24 hours.

Discussion

Incidence of the ruptured uterus in general population is 0.3 to 1.7% in women with history of scar on uterus and 0.03 to 0.08% among women with unscarred uterus [2][3][4]. The commonest risk factor for rupture of uterus is previous cesarean section in scarred uterus and cephalo pelvic disproportion in unscarred uterus [5] Purushotham B.Jaju et al. have reported a case of primigravida with full term pregnancy with no high risk factors admitted, with complaints of labour pain and who had spontaneous rupture of uterus in latent phase of labour, and laparotomy was done. Still born fetus was lying in abdominal cavity which was removed. Blood clots were removed. Uterus was ruptured like two halves of a coconut. Successful conservative operative procedure was done on the rare and dangerous ruptured uterus by suturing it back in two layers [6].

Spontaneous rupture of uterus during pregnancy is a known complication of placenta accreta. Some of the known risk factors for the trophoblastic invasion of the uterine wall leading to placenta accreta during pregnancy are multi-parity, previously scarred uterus, etc. The clinical management of such cases is found in scientific literature; however sudden death due to uterine rupture as a complication of placenta accreta, in a primigravida is not reported till date as reported by Behera C. et al. who encountered a case, where a 27 year old primigravida, at 29th week of gestation who had no known risk factors, succumbed to death, due to spontaneous uterine rupture. The diagnosis of placenta accreta in this case could be made, only during the autopsy [7]. The exact mechanism of placenta accreta is not known, however it may be due to defective or excessive trophoblastic invasion. The risks are high in patients with previous history of placenta previa, curettage and abortion, caesarean delivery, uterine endometrial ablation and radiation or any uterine surgeries.

Cases of sudden death due to uterine rupture in placenta accreta are rarely reported in medical literature. De Roux SJ et al reviewed cases of haemo-peritoneum due to placenta accreta-percreta and found less than 50 such cases, being reported in the past 100 years. They have reported a fatal case of placenta accreta in a multi-gravid uterus who had later succumbed, due to cardiovascular collapse. [8] Also, few non-fatal cases of uterine rupture, due to placenta accreta are described in literature. Imeseis et al cited a case of uterine rupture in a primigravida uterus which was managed surgically. He reported that both the mother and fetus had survived without any morbidity. [9] Esmans et al and LeMaire et al [10] [11] stressed the need to consider the diagnosis of placenta accreta, even during the early pregnancy (14^{th} week and 16^{th} week respectively) citing their observations.

There are several risk factors for rupture of uterus like multiparity [12], uterotonic drugs, placenta percreta [13], intrauterine manipulations such as internal podalic version, cephalo pelvic disproportion, forceful uterine contractions, malpositon, malpresentation, multiple pregnancy, perforation of uterus during mid termination of pregnancy (MTP), obstructed labour, instrumental delivery, scarred uterus following operations on uterus like ceasarean section, myomectomy, utriculoplasty. Impaired collagen synthesis have also been implicated either secondary to chronic steroid use or known collagen synthesis disturbance such as Ehlers Danlos disease which causes ruptured uterus.

The well documented active management of labour protocol by the national maternity hospital describes the nulliparous uterus as "literally immune to rupture". Warning signs of rupture uterus during pregnancy include:-

1. Frequent and strong uterine contractions occurring more than 5 times in every 10 min

and/or each contraction lasting for 60 to 90 seconds or longer.

2. Bandl's ring formation.
3. Tenderness in the lower uterine segment.
4. Vaginal bleeding (Yap et al., 2001).

The author Oxorn [14] in his study divides uterine rupture into several groups: quiet, violent and uterine rupture with delayed diagnosis.

A. A silent or quiet rupture presents without initial dramatic signs and symptoms often with only a rise in maternal heart rate, pallor and slight vaginal bleeding. This variety of rupture develops over several hours characterized by abdominal pain, rapid maternal heart rate, pallor, tenderness on palpation and absent fetal heart sounds. If not diagnosed, hypotension and shock may occur.
B. A violent rupture is apparent almost immediately, characterized by sharp pain following a hard uterine contraction, the presenting fetal part is no longer at the pelvic rim and fetal movements and heart rate cease. Signs and symptoms of shock appear suddenly and complete cardiovascular collapse may occur (Oxorn, 1986).
C. Uterine rupture with delayed diagnosis is a condition that is not evident until the patient is in a process of gradual deterioration.

A prospective cross sectional study was conducted in Faridpur Medical College Hospital by Mahbuba and IP Alam in 2012[15]. In this study, out of 3606 deliveries in 1 year duration, 16 patients (53.3%) had ruptured uterus in unscarred uterus (Mahbuba and Alam, 2012). A similar case of ruptured uterus in primigravida at term who was not in labour was reported by Walsh et al [16]. Rupture of the uterus was diagnosed intraoperatively after patient was taken for emergency laparotomy in view of worsening maternal condition. Uterus was repaired in two layers and patient did well post operatively.

Conclusion:-

This case has been reported to highlight the fact that although rupture of the uterus is a very rare complication in primigravida, it can occur and it should be diagnosed and treated promptly to save the precious lives of the mother as well as the baby with further need of analysis of the diagnostic difficulties in such cases to avoid such future incidences and which can invite legal implications of negligence against the treating medical professionals.

Conflict of Interest None

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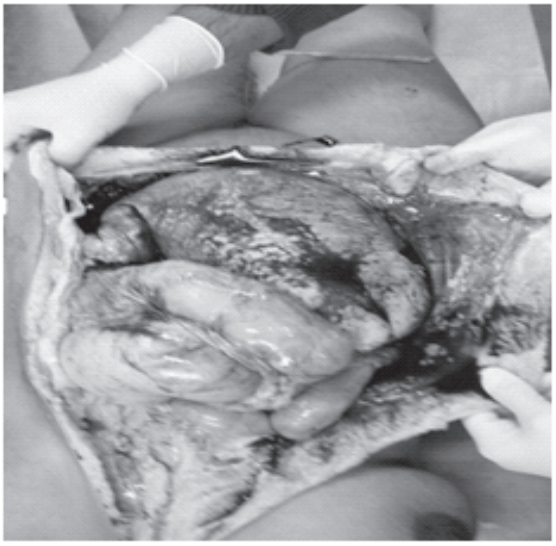
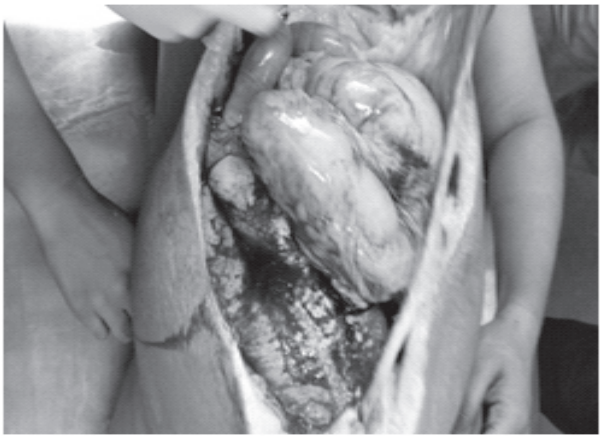


Full term fetus lying dead in the abdomen Outside the ruptured uterus



Bleeding in the abdomen and ruptured uterus