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## Viable baby from a couvelaire uterus

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#### ABSTRACT

A 20 years primi gravida of 32 weeks pregnancy by date was admitted in the labor room with diagnosis of preterm labor with preeclampsia. Ultrasonography revealed 36 weeks pregnancy with normal liquor volume and fundal placenta. Lower segment caesarean section was done for cephalopelvic disproportion with preeclampsia. A female baby was delivered weighing 2.4 kg, with apgar score of 6/10 – 8/10. The placenta was delivered by control cord traction. On the fundus 25% of placenta was already separated and 500 ml of old retro placental clots were found. It was abruption placentae (concealed type), the uterus was bluish/purplish color, which was diffuse on fundal area and effusions of blood were also seen beneath the tubal serosa. After delivery of the baby uterus was well contracted 20 weeks size, bilateral ovaries were normal.

**Keywords:** abruption placentae, couvelaire uterus, preeclampsia, uteroplacental apoplexy

## INTRODUCTIONS

“Couvelaire uterus” or “Utero-placental apoplexy” is a rare complication of severe forms of placental abruption. It occurs when vascular damage within the placenta causes hemorrhage that progresses to and infiltrates the wall of the uterus.<sup>3</sup> There may be widespread extravasation of blood into the uterine musculature and beneath the uterine serosa in uteroplacental apoplexy, it is now termed Couvelaire uterus. Such effusions of blood are also occasionally seen beneath the tubal serosa, between the leaves of the broad ligaments, in the substance of ovaries, and free in the peritoneal cavity.<sup>1</sup> It is a syndrome that can only be diagnosed by direct visualization or biopsy (or both). For this reason, its occurrence is perhaps underreported and underestimated in the literature.<sup>2</sup>

## CASE REPORT

Twenty year primi gravida, from Kailali admitted in labour room with pain on lower abdomen for one day and 7 ½ months of amenorrhoea. She had confirmed pregnancy by urine pregnancy test when she missed her period. She did not have any antenatal visit in 1<sup>st</sup> and 2<sup>nd</sup> trimester. By date it was 32 weeks of gestation. Her general condition was good. Mild pallor, no eceterus, no oedema. Blood Pressure was 160/100 mmHg, pulse 100/minute.

On abdominal examination, the fundal height was 36 weeks, cephalic presentation 5/5. Two contraction in ten minutes was present. Foetal heart sound was 144 beats per minute. Per vaginal cervical os was 1.5 cm, cervix was 50% effaced, head at -3 station, soft, central, membrane and show was present. Pelvis clinically contracted. Ultrasonography showed gravid uterus with single live fetus of 36 weeks. Placenta was fundal with adequate amniotic fluid.

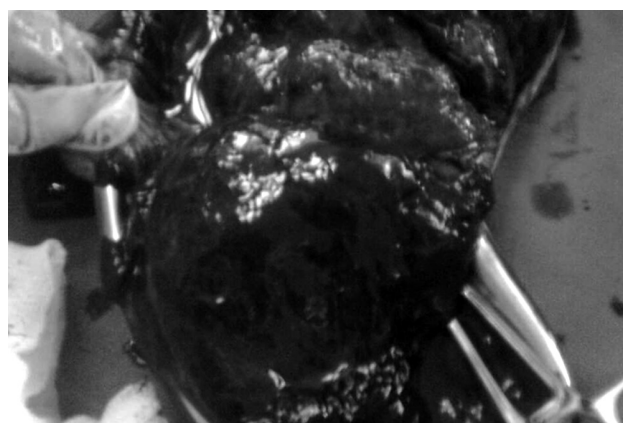
She was admitted in labour room for preeclampsia preterm labour with cephalo pelvic disproportion. Blood group was B+ve, hemoglobin level was 10.8 gm%, urine albumin was 3+. A lower segment caesarean section (LSCS) was performed for cephalo pelvic disproportion with preeclampsia, a female baby delivered weighing 2.4 kg. With apgar score 6/10 – 8/10. The placenta was delivered by control cord traction.

Intraoperatively, on the fundus 25% of placenta was already separated with 500 ml of old retroplacental clots. It was abruption placenta (concealed type), the uterus was bluish/purplish color, which was diffuse on fundal area and effusions of blood were also seen beneath the tubal serosa. After delivery of the baby uterus was well contracted 20 weeks size, bilateral

ovaries were normal (Figure 1). She was discharged on 7<sup>th</sup> postoperative day with healthy baby.



**Figure1. Couvelaire uterus from placental abruption during caesarean delivery, the fundal and anterior view**



**Figure 2: Retroplacental clots during caesarean in a patient with couvelaire uterus**

## DISCUSSIONS

It was first described by couvelaire in the early 1900s as utero-placental apoplexy, later it was termed as uterus on the name of the scientist. The hemorrhage that gets into the decidua basalis ultimately splits the decidua, and the haematoma may remain within the decidua or may extravasate into the myometrium. The myometrium becomes weakened and may rupture due to the increase in intra uterine pressure associated with uterine contractions.<sup>4</sup>

Although the exact etiology of Couvelaire uterus is unknown, it has been associated with placental abruption, placenta previa, coagulopathy, preeclampsia, ruptured uterus from a transverse lie and amniotic fluid embolism.<sup>5</sup>

The most current etiologic theory suggests that

blood from the retroplacental hemorrhage invades the myometrium, separating the muscle bundles, and extends to the serosal surface.<sup>6</sup> For decades, the standard of care for Couvelaire uterus was hysterectomy due to fear of myometrial bleeding interfering with uterine contractility, resulting in atony and postpartum hemorrhage. However today; hysterectomy is usually not required because the condition resolves spontaneously.<sup>6</sup>

The myometrial hematoma present in Couvelaire uterus rarely interferes with uterine contraction following delivery. Presence of Couvelaire uterus as observed during cesarean section is not an indication for hysterectomy. Early intervention will reduce maternal and fetal mortality and morbidity. Abruption is most commonly associated with hypertension in pregnancy. The occurrence of Couvelaire uterus can be prevented by proper management of hypertensive states of pregnancy and prevention of trauma during pregnancy. Mothers should also avoid consumption of alcohol during pregnancy.<sup>7</sup>

A definitive diagnosis of couvelaire uterus cannot be made clinically or radiologically thus being an intraoperative finding. In case of preeclampsia where abruption placentae (concealed type) is suspected, presence of couvelaire uterus as in our case may be an

added finding.

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