

**Case Report**

Couvelaire uterus - A case report

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Abstract

“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. We presented here rare case of 23 years old female with Couvelaire uterus.

Key words

Couvelaire uterus, Utero-placental apoplexy, Placental abruption.

Introduction

“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 [1]. 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 [2].

Case report

A 23 years old female, third gravid, second para and one living child (G3P2L1) with 29 weeks of gestation, came to our hospital with complaint of pain in abdomen since 4 hours. History of

pregnancy induced hypertension (PIH) in previous pregnancy. Her personal and family history was not significant.

General examination

- Pallor +++
- BP - 116/80 mmHg in the supine left lateral position
- Pulse rate - 108/min

Per abdomen findings

- Abdomen was tense, corresponding to 32-34 weeks size.
- Fetal parts were not palpable.
- Clinically fetal heart sound (FHS) could not be localised.



Per vaginum findings

- Cervix was soft, partially effaced
- Os was 2 cm dilated
- Membranes - present

Relevant investigation

- Hemoglobin - 5.8 gm%
- Blood group – “O” positive
- Platelet count – 67000 cells/ cumm
- Urine routine - albumin 3+
- Bleeding time (BT): 12 min
- Clotting time (CT): 10 min
- Prothrombin time (PT): 22 sec
- Activated partial thromboplastin time (aPTT): 52 sec

Liver function tests

- Bilirubin-marginally elevated
- SGOT – raised
- SGPT - raised
- Renal function tests: Normal

Ultrasonography (USG) suggested retroplacental clot and intrauterine death (IUD). **(Photo – 1)** Diagnosis of abruptio placentae grade III, with IUD, in latent phase of labour was made.

Management

Artificial rupture of membrane (ARM) was done. Blood stained liquor was drained. Breech presentation was noted.

After giving antibiotics and starting blood, labour was accelerated. After 2-3 hours of watchful observation for the progress of labour, cesarean section was planned with adequate arrangement of blood as patient was deteriorating.

Intra-operative findings

- 1000 gm of blood clots noted in uterine cavity.

- Dead female fetus weighing 900 gm was extracted.
- Bleeding from muscle, skin incision site was present.
- One unit of whole blood and one unit of packed RBC were transfused intra-operatively.
- The patient was transferred to the surgical intensive care unit after the procedure.
- Patient was stabilised with one unit of packed RBC, two units of fresh frozen plasma and two units of platelet concentrates. After a slow recovery, she did well. Patient was discharged on post operative day 12. Patient was followed up after 1 month post operative period was uneventful.

Intra-operative finding suggested Couvellaire uterus. **(Photo – 2, Photo – 3)**

Photo – 1: Ultrasonography (USG) suggested retroplacental clot and intrauterine death (IUD).



Discussion

“Couvellaire uterus” or “Utero-placental apoplexy” is a pathological entity where the retroplacental blood may penetrate through the thickness of the wall of the uterus into the

peritoneal cavity. It was first described by Couvelaire in the early 1900s as utero-placental apoplexy, later it was termed as Couvelaire uterus on the name of the scientist. The hemorrhage that gets into the decidua basalis ultimately splits the decidua, and the hematoma 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 [3]. 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
- Amniotic fluid embolism [4]

Photo – 2: Couvelaire uterus.



Originally it was thought to be caused by a toxin produced by the placenta during abruption or caused by an obstruction to venous outflow, resulting in pervasion of the uterine wall by blood. 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 [5].

Photo – 3: Couvelaire uterus.



For decades, the standard of care for Couvelaire uterus was hysterectomy. The traditional concern - myometrial bleeding interfering with uterine contractility, resulting in atony and postpartum hemorrhage - is no longer justified today; hysterectomy is usually not required because the condition resolves spontaneously [5].

Abruption is a life threatening condition which hardly gives time to the obstetrician to decide for the management. There is no role of conservative management in Abruptio placenta and delivery is the definitive treatment.

The myometrial hematoma present in Couvelaire uterus rarely interferes with uterine contraction following delivery. Thus the presence of Couvelaire uterus as observed during cesarean section is not an indication per se for hysterectomy.

Early intervention will reduce maternal and fetal mortality and morbidity. Abruption is most commonly associated with hypertension in pregnancy. Proper antenatal visit is required, as haemorrhage is one of the leading causes of maternal mortality. The occurrence of



Couvellaire uterus can be prevented by prevention of abruptio placenta. This includes proper management of hypertensive states of pregnancy and prevention of trauma during pregnancy. Mothers should also avoid smoking or consumption of alcohol during pregnancy [6].

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