



ORIGINAL RESEARCH PAPER

Gynaecology

COUVELAIRE UTERUS- A CASE REPORT

KEY WORDS: Couvelaire, Abruption, Atony, Hysterectomy, ICU, FFP, PRBC

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ABSTRACT

Couvelaire uterus is the term given to the uterus in abruption placenta, where there is widespread extravasation of blood into the uterine musculature and beneath the serosa. Diagnosis is made on visual inspection during cesarean sections. The presence of couvelaire uterus per se is not an indication for hysterectomy because the myometrial haemorrhages seldom causes uterine atony. This was a case of a 39 years old G6P5+0+0+5 at 36 weeks 2 days of gestation, who came with severe abdominal pain for 2 days with antepartum haemorrhage. The patient had history of hypertension but presented with a blood pressure of 80/50 mmHg and active bleeding per vagina. She was taken for emergency cesarean section. Intra operatively, uterus had couvelaire appearance, with retro-placental clots around 1 liter and right sided broad ligament hematoma. Subtotal hysterectomy was done due to uterine atony and uncontrolled bleeding. Patient went into shock intra-operatively. She was kept under ICU care during the post-operative period with inotropic supports. 6 FFP, 4 PRBC and 4 platelets were transfused in total. The patient improved gradually and was discharged on post-operative day 8.

INTRODUCTION:

Separation of placenta either partially or totally from its implantation site before delivery of the fetus is described as abruptio placenta. The prevalence of abruptio placenta is approximately 7.2 in 1000 pregnant women¹. Couvelaire uterus is a condition of the uterus in abruptio placenta, where there is widespread extravasation of blood into the uterine musculature and beneath the serosa giving it an appearance of bluish-black discoloration. It was first described in the medical literature by Dr. Alexandre Couvelaire, a French obstetrician in 1912². The diagnosis is made on visual inspection of the uterus during laparotomy. So, the actual prevalence cannot be estimated. The prevalence is approximately 5% of all the cases of abruption³. It is a non-fatal complication of abruptio placenta. The management of couvelaire uterus is conservative.

CASE REPORT:

It was a case of a 39 years old G₆P₅₊₀₊₀₊₅ at 36 weeks 2 days of gestation, referred from a community health center on account of severe abdominal pain and antepartum hemorrhage. She was an un-booked case. She had 5 previous vaginal deliveries at home. She presented in casualty with severe abdominal pain for two days and bleeding per vagina for 1 day. Her blood pressure had been recorded as 150/100 mmHg in the referral paper but, on presentation in our institute, it was 80/50 mmHg with a pulse rate was 118/ min, and a low pulse volume. She also had marked pallor on clinical examination. On per abdomen examination, uterus was term size with a stony hard feel, and tenderness was present on palpation of the uterus. There were no history of any fall or trauma on the abdomen. Per-vaginal examination was not done but active bleeding was seen per vagina. It was dark red in colour, moderate in amount with clots. Fetal heart sound was not appreciated by stethoscope. She was soon resuscitated with crystalloids. Decision for emergency laparotomy was taken. Blood was sent for necessary investigations and cross matching and the patient was taken to operation theatre for laparotomy. On opening up the abdomen, bluish- black discoloration of the uterus suggestive of couvelaire uterus was seen and the discoloration had extended up-to the right broad ligament (as shown in figure 1.1, 1.2). A low transverse uterine incision was given and a still-born baby weighing 2.9 kg was delivered by cephalic presentation. There were no gross congenital anomalies on the fetus. There were retro-placental clots of approximately 1 liter (figure 2.1, 2.2). Location of placenta was fundus-posterior. After the closure of the uterine

incision in two layers, the uterus remained atonic not responding to oxytocics with continuing post-partum haemorrhage. Simultaneously, there was also development of right side broad ligament hematoma. Bilateral uterine arteries were ligated, uterine compression sutures were taken. But, as the bleeding remained uncontrolled, sub-total hysterectomy was done. Patient went into haemorrhagic shock in the intra-operative period. Two packed RBCs were transfused intra-operatively, and inotropes were started. After surgery, she was taken to Intensive Care Unit. Her hemoglobin came out to be 5.6 gm/dl, with hematocrit of 15.9%. She also had deranged coagulation profile with platelet of 80,000/ mcl, activated partial thromboplastin time of 60.5 seconds, prothrombin time of 25 seconds and international normalized ratio of 2.46. Her liver and kidney function tests were also deranged with serum total bilirubin of 2.8, serum creatinine of 3.0, and serum potassium of 2.8. She was given 6 FFP, 4 platelet, and another 2 PRBCs during the post-operative period. Her kidney function came back to normal during the next 4 days. Inotropes were discontinued by the third day of post-operative period. The patient gradually improved during the next 5 days and she was discharged on the 8th day of post-operative period.



Figure 1.1



Figure 1.2



Figure 2.1

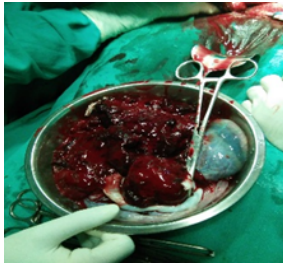


Figure 2.1

Figure 1.1 shows the bluish-black discolouration of the uterus. It had extended to the right broad ligament (figure 1.2). Figure 2.1 and 2.2 show the retro-placental clot taken out.

DISCUSSION:

The risk factors for placental abruption include hypertensive disorders of pregnancy, trauma, multigravida, advancing age, diabetes mellitus, malnutrition, sudden decompression of the uterus as in multiple pregnancies and polyhydramnios, uterine anomalies, external cephalic version, etc. Placental abruption complicates approximately 2% of women with chronic hypertension and 19.5% with pre-eclampsia³.

Abruptio placenta often results in multiple maternal and fetal morbidities. The maternal complications include hemorrhagic shock, post-partum hemorrhage, disseminated intravascular coagulation, oliguria and anuria, puerperal sepsis, couvulaire uterus and even maternal death. The maternal mortality rate is approximately 1-2%⁶. The fetal complications include prematurity, asphyxia, or perinatal mortality. The perinatal mortality associated with abruption is approximately 12%⁷.

The prevalence of couvulaire uterus is approximately 5% of all the cases of abruption². It is one of the non-fatal complications of abruption placentae. The pathophysiology is widespread extravasation of blood into the uterine musculature and beneath the serosa giving the uterus an appearance of bluish-black discolouration. Hemorrhage from the placental blood vessels seeps into desidua basalis causing placental separation, followed by infiltration in the lateral portions of the uterus. These myometrial hemorrhages seldom cause uterine atony and alone, are not an indication for hysterectomy. In our case report, the patient presented in haemorrhagic shock with a prior history of hypertension. So, it was likely a case of placental abruption. But, no prior scans were available to exclude placenta-previa either. Thus, the decision of emergency cesarean section was taken. Hysterectomy had to be done because of the uncontrolled post-partum haemorrhage, probably due to the ongoing coagulopathy.

The occurrence of concomitant disseminated intravascular coagulation (DIC) can cause a range of problems to both the mother and neonate such as emergency cesarean delivery, critical bleeding, uncontrollable bleeding requiring hysterectomy, multi-organ failure, and maternal and fetal death⁴. Uterine atony may occur after delivery of the fetus,

facilitating further bleeding and creating a vicious cycle. In cases of placental abruption, which causes consumption coagulopathy in the early stage, more FFP should be provided at an RBC-FFP ratio of greater than 1:1⁵.

CONCLUSION:

Where there is a couvulaire uterus as an incidental finding during cesarean section without any other complications, conservative management should be done. The couvulaire uterus itself doesn't impair the uterine contraction after delivery, so it is not an indication of hysterectomy. The uncontrolled post- partum haemorrhage in cases of abruptio placentae can rather be caused by the coagulopathy resulting from the abruption itself.

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