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Finding Out Cause of the Maternal Death Following Vaginal Delivery- A Case of Complete Placenta Previa: An Autopsy Report

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ABSTRACT

Placenta previa occur when the placenta is situated completely or its part into the lower uterine segment. Placenta previa can give rise to bleeding either during pregnancy, during labour or following delivery. Transvaginal sonography is most accurate method to diagnose placenta previa. Due to the fact that since one part of the placenta is partially detached, while the other part of placenta has grown into the uterus, postpartum haemorrhage with lethal outcome may occur, unless the mother is hospitalized. Such complications can be prevented by legal abortions. Placenta previa prevents a safe vaginal delivery and requires the delivery of the neonate to be via caesarean delivery.

Keywords: Placenta previa, Delivery, Vaginal bleeding, Pregnancy

INTRODUCTION

Placenta previa occurs when the placenta is situated completely or its part into the lower uterine segment and is located close to the internal os of cervix. Clinically this is important as it can give rise to bleeding either during pregnancy, during labour or following delivery[1]. The prevalence of placenta praevia is around 5 per 1000 pregnancies[2]. The underlying cause of placenta previa is unknown. There is however, an association between endometrial damage and uterine scarring[3]. The expression of placental Cripto-1 (Epidermal growth factor) in the placenta previa groups was higher than that of control[4]. Placenta previa is more common in women who had a caesarean birth, more than one child, twins or triplet, surgery on the uterus, increased maternal age, uterine abnormalities, smoking, cocaine use, assisted reproductive techniques[1,5]. The nicotine and carbon monoxide, found in cigarettes, act as potent

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vasoconstrictors of placental vessels; this compromises the placental blood flow thus leading to abnormal placentation. It became more evident secondary to the increasing rates of caesarean sections[3]. Traditionally placenta previa is divided into four types –

1. **Low lying placenta:** In this type placenta is extended into the lower uterine segment but does not reach the internal orifice of cervix. In most of cases it often moves upward in the uterus as the due date approaches
2. **Marginal placenta:** When placenta just reaches the internal orifice of cervix, but does not cover it then the condition is known as marginal placenta
3. **Partial placenta:** In this type placenta partially covers the internal orifice of cervix
4. **Complete placenta previa:** In this the internal orifice of cervix is completely covered by placenta[6].

Transvaginal sonography is most accurate method to diagnose placenta previa. Transabdominal sonography can also be performed however, it incorrectly identifies placenta previa as compared to transvaginal sonography[1]. The risk of perinatal mortality in women with placental previa is estimated to be 4% to 8%[7].

CASE REPORT

Sealed dead body of 32 years old female (gravida 3 and Para 1) brought by police to mortuary, King George's Medical University for autopsy to find cause of death. Family members put an allegation on the doctor of a private hospital where she delivered a baby by vaginal route. As stated by family members, the gynaecologist was not present at that moment, but still normal delivery was performed by junior doctor which resulted in profuse vaginal bleeding. Bleeding was not controlled by junior doctor and patient died due to postpartum haemorrhage at 07/04/2019.

Autopsy Finding: Autopsy was performed at 08/04/19 at 4.00 pm at Mortuary, King George's Medical University Lucknow with post-mortem number 1407/2019. The body was that of an average build female, of age 32 years. Rigor mortis was present all over the body. Post-mortem lividity was present on the back and dependant parts of the body in supine position. The abdomen was distended. There was no external injury present over the body. There was no history of blunt trauma on abdomen.

On examination breast: Breast enlarged and superficial veins of breast was prominent. Areola dark in colour and Montgomery tubercle present over areola. Nipple enlarged.

On examination of abdomen wall: abdominal wall wrinkled and pendulous. Linea nigra and striae gravidarum was present.

On examination perineum: slightly lacerated on opening the abdominal cavity there was no blood or blood clot in abdominal cavity (Figure 1).

On examination of uterus: flabby, cavity almost obliterated by apposition of anterior and posterior walls

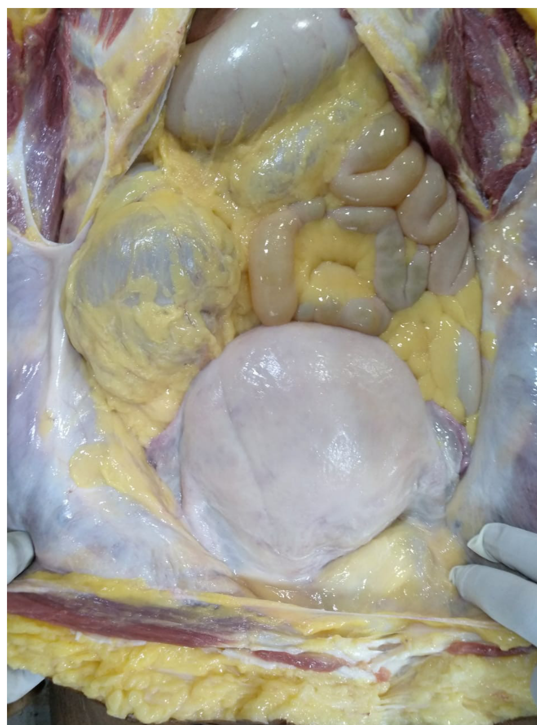

Fig. 1: On opening abdominopelvic cavity, no blood clot, visceral organ and external surface of uterus are intact.

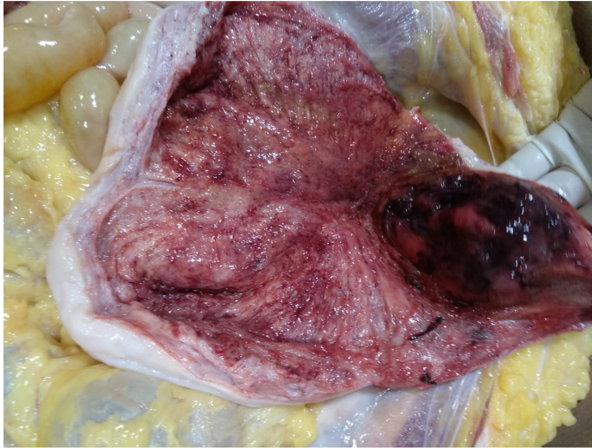

Fig. *2:* **On opening uterine cavity placenta lying at lower uterine segment and completely encircling the internal OS**

On examination of placental site: Placental site as an irregular nodular and elevated area. Placental site present at lower uterine segment which completely encircling the internal os and make the diagnosis of 'Complete Placenta Previa'(figure2).

On examination of cervix: Edge torn and lacerated.

DISCUSSION

Autopsy of mother who died due postpartum haemorrhage as a complication of Placenta Previa who vaginally delivered baby is rarely reported in medical literature. Haemorrhage in obstetrics is one of the life-threatening emergencies, especially in the last trimester which should be managed immediately. In placenta previa, placental site situated in lower uterine segments which stretch at term or during labour which results in inevitable bleeding[8]. Due to the fact that since one part of the placenta is partially detached, while the other part of placenta has grown into the uterus, postpartum haemorrhage with lethal outcome may occur, unless the mother is hospitalized. Such complications can be prevented by legal abortions[9]. Placenta previa prevents a safe vaginal delivery and requires the delivery of the neonate to be via caesarean delivery[3]. Transvaginal sonography, if available, may be used to investigate placental location at any time in pregnancy when the placenta is thought to be low-lying. It is significantly more accurate than transabdominal sonography, and its safety is well established[10]. Complete placenta previa and the majority of the placentas less than 1 cm from the cervical internal os (CIO) do not migrate and a significant risk of haemorrhage at delivery was observed. Above 1 cm, the majority of the placentas migrated three to four weeks later and risk of haemorrhage significantly reduced. Thus, prophylactic caesarean section is required for CIO-PE (placental edge) distances <1 cm[11]. Through monitoring the length of the cervical canal by perineal ultrasound can make a better decision for the patients of complete placenta previa to choose the time of delivery[12]. A new suture technique called "cervical internal os plasty" to control obstetrical haemorrhage in caesarean delivery for patients with placenta previa accreta[13]. The UAE (uterine artery embolization)-DBC (double balloon catheter)-curettage combined treatment is safe and effective for patients with placenta previa who undergo pregnancy termination and suffered massive antenatal haemorrhage in the 2nd trimester. Future studies are needed to advance these observations[14].

Unfortunately, in our case, it was the post-mortem diagnosis of complete placenta previa. At autopsy, a bulky, congested uterus with placental site present at lower uterine segment and encircling entire internal os.

CONCLUSION

Most cases of placenta previa are diagnosed early in the pregnancy via transvaginal or abdominal sonography and others may presents an emergency with painless vaginal bleeding in the second or third trimester. Complete placenta is an obstetrics emergency and requires caesarean section. Vaginal bleeding secondary to placenta previa can lead to postpartum haemorrhage requiring a blood transfusion and intravenous fluids.

In some cases, tocolytic drugs (medications that slow down or inhibit labour), such as magnesium sulfate or *terbutaline* are necessary. *Corticosteroids* may be given to enhance lung development in the foetus prior to Caesarean delivery.

Placental insertion abnormalities require anaesthetic and obstetric coordination. Delivery must be planned in a suitable structure.

Conflict of interest: Nil.

Ethical Clearance: Not Required because my manuscript is a case report and the case report doesn›t require any ethical approval.

Consent: Taken

Source of funding: Not required

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