Management of Abruptio Placenta with DIC- Amultidisciplinary Approach

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Abstract: Pregnancy-related DIC(disseminated intravascular coagulation)is an unusualbut serious consequence. The most frequent associated complication with acute DIC patients is placental abruption. Case: We are reporting a case of G2P1L1 with 29 weeks period of gestation referred from a local hospital with severe abdominal pain and bleeding per vagina, which was diagnosed as a case of Abruptio placentae. Intrauterine fetal death was confirmed on the ultrasound. Under general anesthesia, Emergency caesarean section was done in view of severe abruption with poor bishop score. Extracted a dead male fetus weighing 1.15 kg. Retroplacental clot of around 500gram present with average blood loss of 2000ml with Couvelaire uterus. Intraoperatively 2-unit PRBC transfusion done. Post operatively patient developed DIC with severe anemia. Patient shifted to ICU and managed with transfusion of 5unit PRBC,11FFP, 4RDP and managed successfully. Conclusion: Placental abruption with DIC should be managed carefully as it is associated with serious perinatal as well as maternal outcome. Early detection along with multidisciplinary approach is required to manage successfully.

Keywords: Abruption, Disseminated intravascular coagulation, Caesarean section, IUD, Antepartum hemorrhage

Introduction

The term “Antepartum hemorrhage”refers to bleeding from or inside the genital tract that occurs after the 20thweek of pregnancy before the onset of labor[1]. Vasa previa, placenta previa as well as Abruptio placenta are the main reasons forantepartum hemorrhage. The term “Placental abruption”refers to the premature separation of placenta. The range of reported incidence is 0.49% to 1.8%.[1]In the majority of instances, the etiology of placental abruption is unknown[1].Other etiologic factors include external cephalic version, Hypertension, abrupt uterine decompression after membrane rupture in polyhydramnios as well as multiple pregnancy patients, abnormalities of the placenta (especially circumvallate placenta), increased levels of α-fetoprotein and abdominal trauma[1].Hemorrhage into the decidual basalis and rupture of a decidual spiral artery is most likely the first signs of abruption. The decidua is separated by the ensuing growing retroplacental hematoma, which also leaves a thin layer adhering to the myometrium. As the decidual hematoma

expands, surrounding placenta is compressedand lifted away.
Acute obstetrical DIC is a rare but significant pregnancy complication with placental abruption being the most prevalent related condition[2].It is linked to high maternal mortality as well as morbidity.The management of DIC during pregnancy requires prompt attention to the underlying issue causing this complication, including the delivery of patient as well as hemostatic problem correction.

Case report

G2P1L1 with 29 weeks period of gestation referred from a local hospital with complains of bleeding per-vagina and abdominal pain for 4 hours. On examination pallor++, pulse-90bpm, Blood pressure-90/60mmHg, Spo2 -98% at room air, CVS, RS-No abnormality detected, per abdomen- height of uterus corresponds to 32weeks size, tense, tender, cephalic presentation, fetal heart sound absent, per vaginal examination- cervix uneffaced, 3cm long, admit 1 finger, bleeding through os present. Initial resuscitation done. Laboratory investigations sent. Hb- 6.7g/dl, Blood Group-O positive, Total leucocyte count- 16,000cells/cumm, Platelet count- 1.6lakhs/mcgL,prothrombin Time- increased, aPTT- increased, INR-3.2 (increased), D Dimer-increased.RFT, LFT- within normal range. HIV, Hbsag, VDRL- non reactive, USG-confirmation of single fetus with absent cardiac activity with presence of retro-placental clots (around 500ml).Under general anesthesia, Emergency caesarean section was done in view of severe abruption with poor bishop score with hemodynamic instability. Extracted a dead male fetus weighing 1.15kg. Retroplacental clot of around 500gram present with blood loss of 2000ml Couvelaire uterus was present. Intraoperatively 2-unit PRBC transfusion done.
Post operatively patient shifted to ICU and transfused 5-unit PRBC, 11 units FFP, 4 units RDP and managed successfully.Post transfusion hemoglobin 9.1g/dl. Suture removal done on post operative day 7 and discharged the patient on post operative day 10.

Discussion

Abruptio placenta is the term used to describe the earlyseparation of the normally situated placenta after 20 weeks of gestation and before the delivery of baby. It could be concealed, revealed or mixed.

APH contributes to 2-5% complicated pregnancies among which abruption placenta is 0.5-1% and placenta previa is 0.33-0.5% [3].Usually, it is presented as triad of abdominal pain, stony hard uterus and bleeding. The general condition of the patient does not entirely depend on the amount of blood loss, as abruption can be associated with concealed hemorrhage in 10-20% cases [4]. In 10% cases of abruption, coagulopathy develops; it is more frequent in cases of fetal distress or fetal mortality. Management depends on its associated complications, severity, gestational agealong with the fetus and the mother condition. When a modest placental abruption occurs before 37 weeks of gestation, expectant care is typically taken into account.If it is <34 weeks with alive fetus with unfavorable cervix, 2 doses of steroid are administered and caesarean section is indicated.If fetus is dead with favorable bishop score, labor is augmented with ARM and oxytocin infusion, facilitate vaginal delivery. Whether fetus is alive or dead in presence of massive bleeding, caesarean section is indicated.

The most frequent cause of clinically severe consumptive coagulopathy in obstetrics is placental abruption.According to Sher G et.al fetal death as well as severe abruption occurred in 10-20% of his research patients with DIC[6].One of the main consequences of intravascular coagulation is the activation of plasminogen to plasmin, which then lyses fibrin microembolito maintain microcirculatory patency. Fibrin degradation products, pathological levels of fibrinogen AS WELL AS D-dimers are nearly invariably detected in maternal serum when placental abruption severe enough to kill the fetus.Clinically their quantification is notuseful.Renal failure, PPH, DIC, Preterm labor,Pretermprematurerupture of membranes as well as hypovolemic shock are examples of maternal complications. Birth asphyxia, Small for gestation age,preterm birth and fetal death are examples of fetal complications.Because intrauterine pressure is higher during a concealed abruption, consumptive coagulopathy is most likely to occur. More thromboplastin is pushed into the large veins that drainthe implantation site as a result. Severe coagulation abnormalities are less frequent when there is a partial abruption and a live fetus.

When the patient presents with disseminated intravascular coagulation, stabilize the patient with fluid and blood products. If it is associated with hypertension, control the blood pressure with anti-hypertensives. For massive transfusion 'rule of 4' is applicable, i.e., fresh frozen plasma, platelets, and packed RBC in ratio of 1:1:1[5].

It is not unusual to discover extensive blood extravasation beneath the serosa and into the uterine musculature during cesarean delivery.The term "uteroplacental apoplexy" is termed by Couvelairein the early 1900s. Although this are not a sole indication for hysterectomy, these myometrial hemorrhages may cause uterine atony. Blood effusions may collect in the peritoneal cavity, the ovaries, between the broad ligaments leaves as well as under the tubal serosa.

Conclusion

Amultidisciplinary approach is necessary for the diagnosis and treatment of Abruptio placenta associated with DIC. Early decision to remove triggers and perioperative management, which

includestransfusion of blood substitutes, laboratory parameter checks and mechanical ventilatory support with strict monitoring.

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