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Research Article

The Adherent Placenta: An Overview of Cases and Their Management in Tertiary Care Center (Case Series)

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Abstract: Adherent placenta is a serious pregnancy condition, where placenta invades into uterine wall up to varying depth. Rising rate of cesarean section and increasing maternal age are the major causes. There were 8 cases reported in 1 year (2018-2019) study. All were undiagnosed cases of adherent placenta. Maternal morbidity and mortality is caused by life threatening hemorrhage and massive blood transfusion. In our study blood transfusion rate was (100%), hysterectomy (84%), major artery ligation rate (56%) and mortality rate was (14%). Antenatal imaging and high index of suspicion help in the diagnosis.
Keywords: Adherent, placenta, cesarean, hemorrahage.

Introduction

Adherent placenta is a nightmare complication of pregnancy. Placental villi are directly anchored into different layer of uterine wall. Adherent placenta is a spectrum of disorders that occurs when the placenta becomes unduly attached to the uterus with varied degree of invasion as a result of an incomplete or total absence of decidua basalis and poor development of the Nitabuch layer. This varying from superficial invasion (accreta), myometrial invasion (increta) and serosal invasion (percreta).[2,8,9] Maternal mortality is increased with increasing depth of invasion. Most common risk factor is raising rate of C-section. [1,2,6,8,10] The risk increases from 0.2% in patients with 1 previous cesarean delivery to 2.1% in patients with 4 previous CD. [1,11]

The second major risk factor is the presence of placenta previa, especially when the placenta implant over the scarred portion of the uterus. [1,6,8,10] Placenta previa is associated with 1%-4% risk of developing adherent placenta.[1,11] Previous cesarean delivery and occurrence of Placenta previa contribute to the highest risk of developing adherent placenta. [1,6,8] The risk of developing adherent placenta with one previous cesarean delivery with placenta previa increases exponentially from 3.3% to 61% with four previous cesarean delivery and placenta previa.[11]

Additional risk factors are increasing maternal age, Multiparty, prior uterine surgery (curettage, myomectomy), sub mucosal fibroid, Asherman syndrome.[1,5,7,8,11] It complicates the 3rd stage of labor in form of severe postpartum hemorrhage. It can be diagnosed during manual removal of placenta in 3rd stage of labour or intra operatively and by USG, color Doppler and MRI antenatally. Adherent placenta demands massive blood transfusion, major arterial ligation even hysterectomy and sometimes it costs maternal life.

Case 1: 25 years old $G_3P_1L_1E_1$ history of laparotomy for ruptured ectopic pregnancy and FTLSCS 4 ½ years ago came with 9 months amenorrhea with pain in abdomen. USG finding showed single live pregnancy of 39 weeks cephalic presentation, placenta low lying covering os with adequate liqour. PT was taken for C-section with indication of pre-LSCS with placenta previa with bout. Intraop, placenta was low-lying covering os, and found adherent. Placenta removed in piecemeal with difficulty. PPH occurred, bilateral uterine and ovarian arteries are ligated, still bleeding was there, so subtotal hysterectomy with 2-unit BT done. PT recovered with uneventful post-operative period.

Case 2: 30 years old $G_2P_1L_1$came with complain of 8-months amenorrhea with bleeding per vagina history of prior 1 C-section. USG finding was 30 weeks single live pregnancy with cephalic presentation and low-lying placenta completely covering os. Patient was taken for emergency C-section for placenta previa with bout. Adherent placenta encountered, and placenta removed in piecemeal. Severe PPH occurred for which multiple hemostasis suture applied. But there was intractable PPH and patient was deteriorating continuously, subtotal hysterectomy done with 4-unit BT and 3-unit FPP. Patient could not be revived due to irreversible shock.

Case 3: 21 years old $G_3P_2L_2$ with history of previous 2 C-section came with complain of 9 months amenorrhea with pain abdomen. USG finding was 38 weeks single live pregnancy, Cephalic presentation, placenta lower segment posterior wall, and adequate. Elective cesarean was performed. Intraoperatively placenta was adherent and on P/W low lying reaching upto cervix, same removed with difficulty in piecemeal. Because of PPH, subtotal hysterectomy done. But patient was still bleeding then bilateral internal iliac artery ligation done. Post-operatively there was stich line infection occurred. But after long hospital stay patient recovered and discharged in healthy condition.

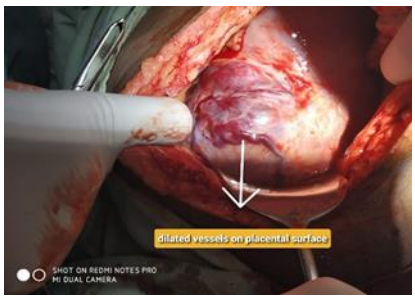

Figure 1. Placenta Precreta

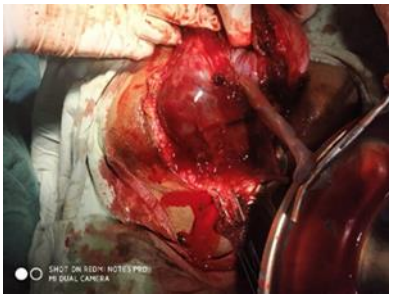

Figure 2. Adherent Placenta

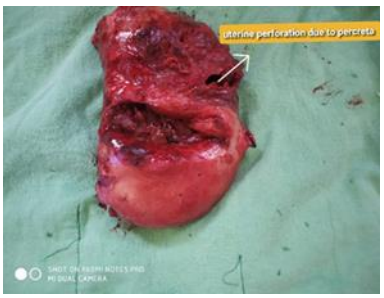

Figure 3. Hysterectomy Specimen after removal of Adherent Placenta

Case 4: 22 years old $G_2P_1L_O$ with 1 pre cesarean, 4 years back was admitted with complain of 7-month amenorrhea with seizures. USG finding was 30 weeks live pregnancy and placenta anterior wall upper segment. C-section performed for pre-LSCS with antepartum eclampsia. Placenta was found adherent on anterior wall and lower uterine segment and it was adherent, same removed with difficulty. Intra-operatively PPH occurred hemostatic sutures applied. But patient was still bleeding then bilateral internal iliac artery ligation was done along with 3-unit BT. Patient recovered with uneventful post-operative period.

Case 5:30 years old $G_3P_2L_2$ with history of previous 2 cesarean, admitted with c/o 6 months amenorrhea with pain abdomen. USG showed single live pregnancy of 25 weeks, placenta in (right) lateral wall with 45×35 mm retroplacental hematoma at fundal wall with local thinning of anterior uterine wall. Caesarian performed for pre-2LSCS with abruption. Intraoperatively, placenta was adherent on (right) lateral wall of uterus extending up to cervix with feeding vessels and bladder adherent to lower uterine segment. Placenta removed in piecemeal with difficulty. It was percreta, managed with total hysterectomy with 3 unit BT and 4 FPP. Patient had history of post-op fever and discharged from hospital after recovery.

Case 6: 27 years old $G_2P_1L_1$ with full term normal delivery, admitted with 9 months amenorrhea with pain in abdomen. USG showed single live pregnancy of 36 weeks with central placenta previa. Caesarian done for placenta previa with bout. Intra-operatively placenta on anterior wall and adherent to lower uterine segment and cervix. Placenta removed in piecemeal. PPH occurred bilateral uterine artery ligated but still bleeding was present then subtotal hysterectomy done along with 2-unit BT. Patient was recovered with uneventful post-operative period.

Case 7: 29 years old $G_2P_1L_1$ with history of previous 1 caesarean section, came with c/o 7 months amenorrhea with bleeding per vaginum. USG showed SLP of 27 weeks with placenta anterior wall low lying completely covering os. Caesarean done for placenta previa with bout. Intraop placenta was adherent on anterior wall and completely covering os. Placenta removed with difficulty in piecemeal. Subtotal hysterectomy done along with 4-unit BT. Patient was recovered and discharged successfully.

Discussion

Adherent placenta in rare complication of pregnancy. Incidence is increasing in last decades and increased upto 1 in 550 deliveries due to increased rate of C-section.[10]

In our case series out of 7 cases 6 were previous caesarian and 6 were associated with placenta previa. 6 cases were accreta and 1 was percreta. All cases needed blood transfusion. Internal iliac artery ligation done in 2 cases, uterine artery ligation in 3 cases. Hysterectomy done in 7 cases, 6 patients were managed successfully and 1 patient expired.

It can be diagnose antenatally with USG as loss of retro placental sonolucent zone, disruption of bladder serosa interface, invasion of bladder with placenta and abnormal placental lacunae. On color Doppler vascular lacunae of low resistance turbulent flow, with 3-D color Doppler numerous coherent vessels are found.[1,5] On MRI heterogeneous placenta with placental bands and focal interruption of hypo intense myometrium.[5] If adherent placenta encountered during manual removal of placenta, it results in massive hemorrhages and hemodynamic instability. Berg et al. reported that around 8% of maternal deaths due to haemorrhage are caused by morbidly adherent placenta. There is no standard protocol for management of adherent placenta. The surgical management of adherent placenta include non-conservative surgery, such as subtotal or total hysterectomy and conservative uterus sparing surgery such as placental resection or leaving of the whole placenta in situ with or without interval hysterectomy.[1,4,6,9] Placental tissue is either allow to undergo autolysis spontaneously or with the help of methotrexate.[4,6] However these patients are at high risk of secondary post-partum hemorrhage and sepsis for which they can land up into emergency peri partum hysterectomy.[4,6] The option of surgical management depends on need for fertility preservation, severity of hemorrhage, patient's condition and expertise available.[1,4,5,6] Elective cesarean hysterectomy with placenta in situ is gold standard for adherent placenta, especially in developing countries.[1,3] Generally, decision of hysterectomy should be taken liberally to reduce blood loss and lower maternal mobility and mortality.

Conclusion

All cases of previous cesarean with placenta previa or pre-2 sec or more and associated other risk factors should be treated as adherent placenta. In case of high index of suspicion antenatal imaging should be done. Case should be managed in multi-facility center with availability of expert obstetrician, anesthetist 24 hours blood bank, ICU. Cesarean hysterectomy is the mainstay of treatment in adherent placenta. Major vessels ligation is preferred in patients who do not have any issue depending upon the vital parameters of the patients. Since the LSCS rate has risen to approximately 30-40% in many health facilities. Specific protocol needs to be advised to follow up cases of previous cesarean in antenatal period and to formulate protocols to curtail cesarean rate.

Conflicts of interest: The authors declare no conflicts of interest.

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