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*Full Length Research Paper*

# Placenta Accreta Diagnosis and Conservative Management

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***Abstract***
*Placenta accreta is a complication of pregnancy and is currently a common indication for peripartum hysterectomy. It is becoming a common complication due to the increasing rate of cesarean delivery. The main risk factor for placenta accreta is a previous cesarean delivery specially when accompanied with a coexisting placenta previa. Antenatal diagnosis may be a key factor in optimizing maternal outcome. Diagnosis can be achieved by ultrasound in the majority of cases. Women with placenta accreta must be delivered by a cesarean section. To avoid an emergency cesarean and minimize complications of prematurity scheduled cesarean at 34 to 35 weeks is accepted. A delivery at a center with adequate resources, including those for transfusion are both essential to reduce neonatal and maternal mortality. Cesarean hysterectomy may be preferable treatment. In selected cases, when fertility is desired, conservative management is considered with caution. The current study discusses incidence diagnosis and management of Placenta accrete by conservative technique.*

***Keywords:*** *Invasive placenta; antenatal diagnosis; hysterectomy; conservative treatment; management; placenta accreta or percreta.*

**Introduction**
Placenta accreta occurs when the chorionic villi abnormally invade the myometrium. It is divided into three grades based on histopathology: placenta accreta where the chorionic villi are in contact with the myometrium, placenta increta where the chorionic villi invade the myometrium, and placenta percreta where the chorionic villi penetrate the uterine serosa [1]. Placenta accreta is a severe pregnancy complication that may be associated with massive and life-threatening intrapartum and postpartum hemorrhage [2]. It may be leading cause of emergency hysterectomy [3].The incidence of perinatal complications is increased due to preterm birth and small for gestational age fetuses [4–7].

Placenta accreta is becoming an increasingly common complication of pregnancy, mainly due to the increasing rate of cesarean delivery over the past years [8]. The fact that the indications for cesarean delivery seem to be steadily expanding, including cesarean delivery on maternal request, the incidence of placenta accreta is likely to continue to increase [9]. Several risk factors for placenta accreta have been reported, including a previous cesarean delivery specially when accompanied with a coexisting placenta previa. Increasing numbers of prior cesarean deliveries exponentially increase the risk of placenta accreta [10–14].

**Materials and methods**
Placenta accreta was suspected in40 women who have both a placenta previa, particularly anterior, and a history of cesarean or other uterine surgery. The study was done in Al-Azhar university hospital in the period of January 2013 to December 2014.
Antenatal ultrasound was the technique of choice used to establish the diagnosis and guide clinical management .Signs of accretion may be seen as early as in the first trimester. All women had low-lying gestational sacs which are clearly attached to the uterine scar. The myometrium was thin in the area of the scar to which the sac was attached compared to normal early gestational sacs .Women with signs of accretion in the first trimester were undergo follow-up imaging later in the second and third trimester with attention to the potential presence of placenta accreta. Second and third trimester gray-scale sonographic characteristics of the studied women include loss of continuity of the uterine wall, multiple vascular lacunae (irregular vascular spaces) within placenta, giving “Swiss cheese” appearance adjacent to the placental implantation site, lack of a hypoechoic border (myometrial zone) between the placenta and the myometrium, bulging of the placental/myometrial site into the bladder, and increased vasculature evident on color Doppler ultrasound. we observed “numerous coherent vessels” detected by three-dimensional power Doppler in the basal view were the best single criterion for the diagnosis of placenta accrete.In two cases the ultrasound findings are not considered definitive, and the placenta is located on the posterior wall, magnetic resonance imaging was performed using gadolinium contrast injected intravenously. Magnetic resonance imaging findings considered suspicious for the presence of placenta accreta include placental heterogeneity, mass effect of the placenta into the underlying bladder or extending laterally or posteriorly beyond the normal uterine contour, obliteration of the myometrial zone visible on initial uptake of gadolinium, and a beading nodularity within the placenta .
Management

40 women with placenta accrete were delivered by a cesarean section. The surgery was done under elective, controlled conditions rather than as an emergency without adequate preparation. General anesthesia was the most appropriate choice, including cases where severe hemorrhage is anticipated. There is a great benefit of planned as opposed to emergent peripartum delivery. Accordingly timing of delivery was having a crucial impact on maternal and perinatal outcome. The conservative management was to leave the entire

placenta or just the part that was adherent to the myometrium in situ and to preserve the uterus. Manual removal of densely adherent placental areas should not be tried because forceful separation may result in severe bleeding. After opening of anterior abdominal wall, uterus was opened to deliver baby and placenta and umbilical cord clamping was done and the placenta was left in situ then uterus was delivered outside abdomen, then exploration of the posterior abdominal wall was done to explore internal iliac arteries on both sides , bilateral internal iliac arteries were ligated on both sides mainly anterior division . Placenta was removed very slowly to prevent further damage of the lower uterine segment. Placental bed repaired and any bleeding point was secured for bleeding by many types of suture as 8 shaped figure sutures, purse string suture takes places after making sure good haemostasis for placental bed the uterus was closed anatomically.

In few cases (fife) where there was marked damaged of lower uterine segment excision of this damaged part and reconstruction of new healthy tissue with suturing. In rare cases (two) where there was marked adherence of small placental tissue and no way to remove it, Methotrexate and broad spectrum antibiotics were given and follow up by successive HCG titer.

Three cases with bladder invasion were repaired in two layers, with good haemostasis then one intraperitoneal drain was left anterior to lower uterine wall and one was left in Douglas pouch then anterior abdominal wall was closed in a separate layer with good repair and haemostasis. Blood packs should be ready for all cases in same group and RH and starting blood transfusion from the start of surgery to avoid marked hypovolamia which may takes places. Urinary bladder catheter must be left for fourteen days in cases of bladder injury only. Cesarean hysterectomy was done for two cases with high recurrent rate of previous section (previous five and six) and high parity and patients age above forty undergoing of sever uncontrollable bleeding and urinary bladder infiltration..

*Age distribution*
In our study the mean maternal age of pregnant women with placenta accreta (n=40), was in range of 21- 43 years. Higher incidence was noted in women in the >30 years age group (n=26). This was followed by patients that constituted 26-30 age group (n=10).

**Table 1:** Age distribution of cases

| Age in years | Number | Percentage |
|---|---|---|
| 21-25 | 4 | 10% |
| 26-30 | 10 | 25% |
| >30 | 26 | 65% |
| Total | 40 | |

*Parity distribution:* In this study multiparous patients were much more than the primi group. Multipara thirty six constituted 90 % while Primipara (n=4) constituted 10%.

**Table 2**: Pariety distribution in our pregnant womens

| Parity distribution | Number of cases | P Percentage |
|---|---|---|
| Multi | 36 | 90% |
| Primi | 4 | 10% |

Placenta previa was common finding in placenta accrete pregnancy seen in thirty three pregnant women, 82.5%.

**Table 3:** Distribution of placenta previa:

| Placental previa | Number of cases | Percentage |
|---|---|---|
| Positive | 33 | 82.5 % |
| Negative | 7 | 17.5 % |

*Amniotic fluid index*
Placenta accreta showed a high association with oligohydroamnios. Thirty percent of pregnancies had a normal amniotic fluid index and seventy percent of pregnancies had Oligohydromanios.

**Table 4:** Showing distribution of AFI in cases.

| Amniotic fluid index | Number | Percentage |
|---|---|---|
| Oligohydromanios | 28 | 70% |
| Normal | 12 | 30 % |

Antipartum hemorrhage was seen in eleven pregnancy in the form of four cases with mild APH, five cases with moderate and finally two cases with sever form of APH.

**Table 5**: Distribution of antipartum hemorrhage in pregnancy

| Antipartum hemorrhage | Number | Percentage |
|---|---|---|
| Mild | **4** | 10 % |
| Moderate | **5** | 12.5 % |
| Sever | **2** | **5%** |

**Table 6:** Previous cesarean section is seen in all pregnant women's with placenta accrete recording 100%

| Previous cesarean section | Number | Percentage |
|---|---|---|
| Positive | **40** | 100 % |
| Negative | **0** | |

**Table 7**- Distribution of invasion of the uterine wall with urinary bladder Infiltration in placenta accrete cases

| Invasion of uterine and UB Infiltration | Number | Percentage |
|---|---|---|
| Positive | **2** | **5%%** |
| Negative | **38** | **95%** |

Management of placenta accrete by bilateral internal iliac arteries occlusions and placental bed repair for thirty eight and two cases managed with Hysterectomy

**Table 8**: Different management of the placenta accreta

| Management | Number | Percentage |
|---|---|---|
| **Bilateral IIA and placental bed repair** | **38** | **95 %** |
| Hysterectomy | **2** | **5%** |

**Discussion**

Placenta accreta is a rare complication of human placentation with fertility and life-threatening sequel. Traditional management has centered upon hysterectomy and its prompt undertaking has been well documented in saving lives. While in many situations hysterectomy will remain appropriate, there are other management options available involving conservative approaches. This article reviews the diagnosis and demographics of this potentially frightening pathology and highlights the important aspects of conservative management if hysterectomy is to be avoided. [15].40 cases of placenta accreta/increta were diagnosed in our study in the last 3 years, which is in accordance with the reports of increased placentation disorders in the past few years. The risk factors for placenta accreta/increta outlined in the introduction (advanced maternal age, previous uterine operations) were all present in our patient collective (Table 1, 6). Nevertheless, in all cases the diagnosis was made Antepartum. The cases described here show that conservative expectant management was possible in selected patients with placenta accreta/increta diagnosed Antenatal, even after section, with patients closely supervised on an inpatient basis. Such patients need to have a stable circulation and no haemodynamically relevant bleeding or bleeding controllable by RPBC transfusion and measures such as the administration of uterotonic drugs (oxytoxin, sulprostone, methylergometrine). Moreover, if women have been discharged home as outpatients, then regular clinical, laboratory and sonographic controls with close follow-up to ensure early recognition and management of possible complications are indispensable for successful conservative therapy. Two of the 3 cases described here developed infection, and both cases were successfully treated. In 2 of the 3 patients managed expectantly, the placenta was detached manually with intrauterine palpation to retrieve the placenta after sonography had indicated that the placenta was gradually becoming detached. Like the results reported by Senthiles et al. [16] and Provansal et al. [17], we were able to preserve the uterus and preserve fertility in 3 selected patients with placenta accreta/increta diagnosed peripartally through conservative, expectant management, combined with symptomatic therapy and close monitoring.

If a patient does not want any more children, hysterectomy following caesarean section is the treatment of choice for placenta accreta/increta [18] Nevertheless, if the patient wishes to have another child the possibility of conservative management leaving the placenta in situ (after caesarean section) needs to be evaluated in larger studies to develop evidence-based therapy options. At present, he option of conservative management can be discussed with selected patients taking the above-mentioned conditions into consideration.

**Conclusion**

Placenta accreta is becoming an increasingly common complication of pregnancy. Early diagnosis is a key factor in optimizing the counseling, treatment, and outcome of women with placenta accreta. Conservative management by bilateral internal iliac arteries ligation is valuable in highly selected cases who need fertility.

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Fig 1. Lower uterine segment placenta location

Fig. 2 Placenta in situ with clamping of the cord (as a technique to prevent blood loss).

Fig 3 Common iliac artery bifurcation with its internal and external branches

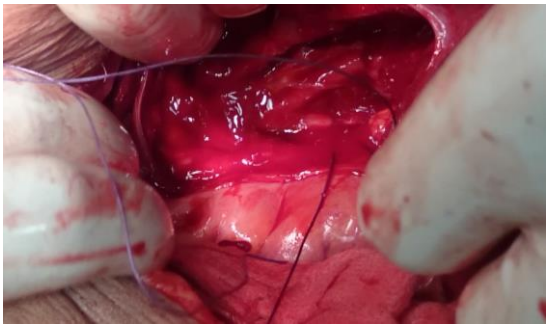

Fig 4. Internal iliac artery Ligation

A

B

C

Fig 5. A, B and C Right angle artery for right internal iliac artery ligation

Fig 6. Intraoperative observation for placenta bed site shows insignificant bleeding after

Fig 7. Placental bed repair to secure bleeding point

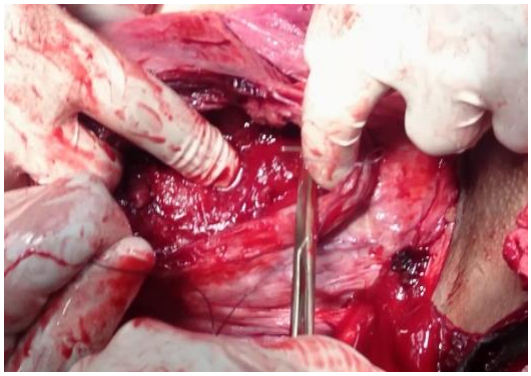

Fig 8. Second image for placental bed repair

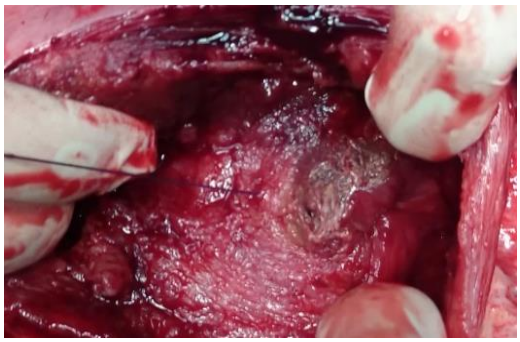

Fig 9. Significant hemostasis after placental bed repair

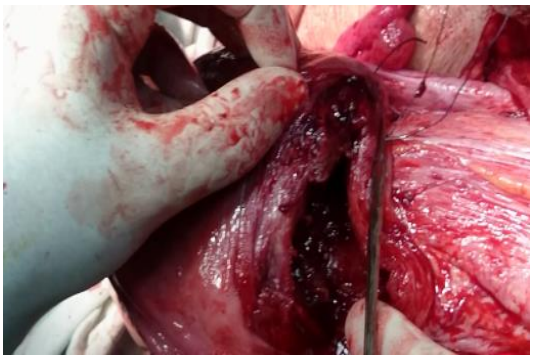

Fig 10. Closure of uterine wall by continuous suturing

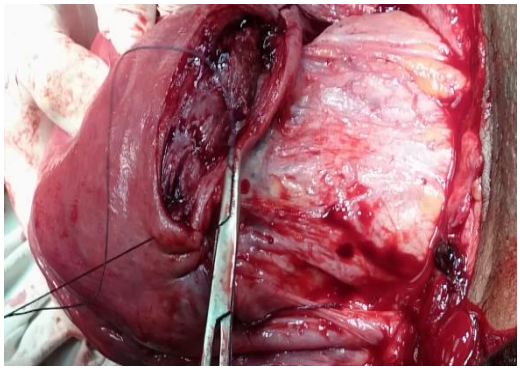

Fig 11. Continuous suturing of second layer of uterine wall