

Placenta Accreta

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Placenta accrete is defined as an abnormally adherent placenta that is directly attached to the myometrium because of inadequate development of the fibrinoid layer (Nitabuch layer) and absence of decidua basalis either partially or totally. (1) Three degrees of placenta accrete exist depending on the depth of villous invasion: placenta accreta is when villi become attached to myometrium, placenta increta: the villi invade the myometrium, placenta percreta represents the greatest degree of severity where placental villi penetrate throughout myometrium and peritoneum extending sometimes to adjacent structure such as the bladder. (1, 2, 3) Placenta accreta accounts for 78% of cases, increta for 17% and percreta 5-7%. (4)

Massive obstetric hemorrhage is still the leading cause of pregnancy related deaths, and placenta previa accreta remains one of the serious predisposing factors. (5)

The problem occurs when there is abnormal separation of placenta in 3rd stage of labor, and attempts to deliver the placenta may provoke massive blood loss that may necessitate hysterectomy. (2)

With the increasing rate of cesarean section the incidence of both placenta previa and placenta accreta is steadily increasing in frequency, (3, 4) we therefore anticipate more cases of placenta previa accreta.

In several recent series, placenta accreta has emerged as the major indication for peripartum hysterectomy, accounted for 40-60% of cases. (7),

It is not always clinically possible to differentiate between the three types of placenta accreta. Placenta accreta is not usually suspected when the placenta is normally situated, but antenatal diagnosis is possible when placenta accreta is previa. Accreta invasion may involve whole placental cotyledons, or partial (several cotyledons), or focal as one or two cotyledons.

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Incidence

Incidence of placenta accreta has increased 10 folds in the past 50 years, the latest incidence is 1/2500 deliveries (9, 10), compared to 1/30000 in 1950-1960 and 1/7000 in 1980(9, 10) In personal observation we use to see not more than 1-2 cases of placenta accreta per gynecologist per year during the era of 1970-1990(this is not official statistics).

In a study carried in the Department of Obstetric & Gynecology/ Baghdad teaching Hospital, by doctor Raya Khalid ((11), 2002-2003 on 53 patients with placenta previa beyond 28 weeks gestation, she found that 20.8% of them had placenta accreta. 39% of the accreta patients had previous cesarean section. 32% were with 1-2 cesarean section compared to 66% who had 3 or more sections. (11)

The incidence was higher in grandmultipara compared to low parity.

It is not the number of pregnancies or deliveries but the exposure to repeated manual removal of placenta or curettage.

It seems reasonable to assume that with an increasing amount of scar tissue in the lower segment leads to an increasing incidence of placenta accreta (12) Decidual tissue is scanty in the lower segment and decidualization may be impaired further in the presence of one or more lower segment scars.

This may lead to increased likelihood of trophoblastic invasion into myometrium, penetrating to peritoneal surface should the placenta implants in this area. (12) All obstetricians should be aware of strong association between placenta previa and accreta in scarred uterus. (12) Being life threatening condition that continues to rise with increased number of uterine scars, gives further support to attempt vaginal deliveries following single cesarean section. Repeated curettage specially vigorous one for various types of abortion increase the chance of placenta accreta, Ling et al 2001(1), Clark et al 1985(12).

Risk factors:

Placenta previa itself raises the risk of placenta accreta due to inadequate decidual response of lower uterine segment and due to implantation over highly vascular poorly contractile lower segment. (2).

The most important factor is previous lower segment cesarean section. Previous uterine surgery

damage to endometrium and myometrium during cesarean predispose to low deep implantation of placenta in the uterus. (13)

Endometrial defect like Ashermann syndrome, presence of sub mucous fibroid with subsequent atrophy of the overlying mucosa (14), previous manual removal of placenta, vigorous and repeated curettage, pregnancy in uterine diverticulum (14), previous myomectomy and reconstructive uterine surgery. (13)

Clinically risk factors may be used as screening criteria to identify women at highest risk for placenta accreta for whom ultrasonographic evaluation might often be of great benefit. (6) Awareness about risk factors in emergency cases help careful preoperative preparations and counseling women with placenta previa. (6)

Clinical Presentation of Placenta Accreta:

Varies between symptoms free to shock secondary to sever bleeding. (15)

Serious postpartum hemorrhage is significantly more frequent in placenta accrete compared to nonaccreta placenta previa. Attacks of frank hematuria could be the presenting symptom when urinary bladder is involved. (15)

Abdominal pain and collapse secondary to internal hemorrhage. (15)

Infection, fever, and anemia are common. Maternal mortality will be expected with extensive unreplaced blood loss and delay of energetic management in good center. Miller et al 1997(6), Hoffman et al 1992(16), Chou et al 2000(17) reported no mortality so is Rayya Khalid (i i), while Fox H. et al 1978(18) reported 6.5% mortality rate.

Prenatal Diagnosis of Placenta previa Accreta:

There is no single diagnostic test that can accurately diagnose this condition in all cases. (3). Diagnostic ultrasonography is safe, noninvasive, and may be accurate in expert hands. It totally replaced older methods such as X-Ray, Iodine labeled albumin and Technetium scan.

The real time scanner is ideal for screening purposes being rapidly and easily performed. The location of placenta and its relation to cervical os should be documented in 2nd & 3rd trimesters of pregnancy.

It is extremely important to diagnose placenta accreta prenatally using B-mode sonography so that there is enough time to develop good plan.

Magnetic Resonance Imaging (MRI) is not yet a well established mean of diagnosis, experience suggests that it will confirm or rule out the diagnosis of placenta accreta when ultrasound finding is equivocal. (3)

It is useful in presence of posterior placenta,

and in assessing deep myometrial, parametrial and bladder involvement. (3,6)

Complications of Placenta Accreta

The major complication is intra and postpartum massive hemorrhage.

Uterine wall rupture, uterine infection, uterine inversion secondary to attempts to deliver the placenta. (16,18 19) Anesthetic complications may occur when patient is in shock state and when preparations for surgery are suboptimal. (20,2 1) Death may occur from massive hemorrhage despite preparations and expert management. O'Brien (22) reported that 50% of maternal deaths in placenta accreta occurred after 35 weeks gestation emphasizing the greater risk of sever spontaneous hemorrhage with increasing gestational age.

Morbidity like massive blood transfusion, urethral transection, cystectomy may intentionally be done to aid dissecting lower uterine segment from bladder. Disseminated intravascular coagulation may add to the grave condition. (7) The majority of serious cases come from rural areas where proper transport is difficult to find or may be absent, therefore the patient reaches hospital in state of irreversible shock.

Management:

The procedure should take place in a hospital that not only has intensive care unit but has experience in dealing with complex intraoperative hemorrhagic complications. (1, 3) Ensure that clotting factors and intensive resuscitation measures are available. The decision should consider parity, future fertility desire and the clinical circumstances. (1) When imaging strongly suggests the diagnosis one should plan for cesarean with hysterectomy with adequate preparations of blood, an experienced surgical and anesthetic team and intensive hemodynamic monitoring, these will reduce the incidence of maternal mortality and morbidity. (17)

Classical cesarean incision is done first to deliver the fetus, clamp the cord and close the incision prior to hysterectomy. (9)

Focal placenta accrete is occasionally managed conservatively with excision or over sewing of the implantation site or interrupted circular sutures of lower segment on serosal surface of uterus. (23) Johnson 2001 reported avoiding hysterectomy in approximately half of the cases of placenta accreta. (23) Some reports (Legro (24), Jaffe (25) 1994) suggest a more conservative approach including leaving the whole placenta insitu and using methotrexate postoperatively. (24,25)

Predelivery angiographic embolization of pelvic vessels is another technique recently described. (23) The technique requires the availability of skilled radiologist angiographer & facility with experience (Legro & Jaffe 1994). (25) B-Lynch et al 1997(26) reported successful use of a brace suture which compress the uterus without major vessel

compromise.

When the bleeding remains uncontrollable ligation of the internal iliac artery is to be performed. Hysterectomy will be the last resort.

Finally confirming diagnosis of placenta accrete is by the surgeon's judgment at time of operation and by histopathology.

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