



# Learn simply

## Placenta Accreta

Passion profession same

### Placenta previa diagnosed on ultrasound<sup>1</sup>

Presence or absence of risk factors for placenta accreta<sup>2,3</sup>

- Avoid digital vaginal exam<sup>4</sup>
- Confirm gestational age and fetal well-being

Is the ultrasound suspicious for placenta accreta?<sup>5</sup>

No

Subsequent antepartum management

- Routine prenatal care
- *Consider MR imaging<sup>6</sup>*
- **Consider serial ultrasound examinations<sup>7</sup>**

Delivery management<sup>8</sup>

- ✓ CBC, T&S, coagulation screen
- Early anesthesia consultation
- *When cesarean is performed for placenta previa, be prepared for intraoperative diagnosis of placenta accreta (may require hysterectomy, so consider dorsal lithotomy positioning)*

Yes

Subsequent antepartum management

- Regular prenatal visits
- Consider pelvic rest after 20 weeks
- *Consider early MFM and anesthesia consultation*
- *Consider empiric antenatal steroids after 24 weeks*
- *Consider iron, dextran, erythropoietin to build up hematocrit*
- **Serial ultrasound examinations<sup>7</sup>**
- **Consent for cesarean and possible need for further surgery (hysterectomy) and blood transfusion<sup>9</sup>**

Consider elective cesarean-hysterectomy at 34–36 weeks<sup>9,10</sup>

Careful preoperative planning<sup>11</sup>

Intraoperative management

- **✓ CBC, coagulation screen, T&S, large-bore iv access**
- *Consider preoperative internal iliac artery balloon catheters*
- Early and aggressive fluid and blood product resuscitation
- Consider midline vertical skin incision, high vertical (“classical”) hysterotomy, immediate closure of hysterotomy (do not remove placenta!) and puerperal hysterectomy<sup>12</sup>

1. Placenta previa refers to a placenta that overlies or is proximate to the internal os of the cervix. It complicates 0.3-0.5% of pregnancies. The majority of cases of placenta previa are diagnosed during routine sonography in asymptomatic women, usually during the second trimester. Transvaginal ultrasound is superior to transabdominal ultrasound for this indication and, therefore, transvaginal ultrasound must be performed to confirm the diagnosis.
2. Placenta accreta is a general term used to describe the clinical condition when part of the placenta, or the entire placenta, invades and is inseparable from the uterine wall. Three grades of abnormal placental attachment are defined according to the depth of invasion:
  - (i) accreta: chorionic villi attach to the myometrium, rather than being restricted within the decidua basalis (81.6%);
  - (ii) increta: chorionic villi invade into the myometrium (11.8%);
  - (iii) percreta: chorionic villi invade through the myometrium (6.6%).Of these, placenta accreta is the most common type and complicates 3 in 1000 deliveries.



1. Women at greatest risk of placenta accreta are those who have myometrial damage caused by a previous cesarean delivery with either anterior or posterior placenta previa overlying the uterine scar.
2. Anterior or central placental location has been found to be a significant risk factor in the presence of a previous scar (28.6% vs. 1.9%,  $p < .001$ ), but not in its absence (2.4% vs. 6.0%,  $p = .239$ ). Additional risk factors include advanced maternal age, multiparity, hypertensive disorders of pregnancy, smoking, and any condition resulting in myometrial tissue damage followed by a secondary collagen repair (myomectomy, classical cesarean delivery, endometrial defects due to vigorous curettage resulting in Asherman syndrome, submucous leiomyomas, thermal ablation, uterine irradiation/radiation of lower abdomen, and uterine artery embolization).
3. Placenta previa alone is associated with a 3.3% incidence of accreta, which increases to 11-24% with placenta previa and one prior cesarean, 40% with placenta previa and two prior cesareans, and >60% with placenta previa and three or more prior cesareans. An unexplained elevation in maternal serum a-fetoprotein (MS-AFP) at 15-20 weeks' gestation is also associated with abnormal placentation.



Placenta Accreta

1. Most women with placenta previa and accreta do not develop symptoms during pregnancy.
2. However, some women may present with acute onset of bright red vaginal bleeding, which is usually painless. Abdominal pain is rare.
3. Other causes of antepartum hemorrhage include placenta previa alone, placental abruption vasa previa Vasa previa), early labor, and genital tract lesions (cervical polyps or erosions). Bleeding is of maternal origin. If excessive, it can lead to hemodynamic instability and shock.
4. When a woman presents with antepartum hemorrhage, pelvic examination should be avoided until placenta previa is excluded on ultrasound (preferably by transvaginal approach).
5. Digital vaginal examination with a placenta previa may provoke catastrophic hemorrhage and should not be performed. In the setting of placenta previa, fetal malpresentation is common



1. The major sonographic features of placenta accreta include:
  - (i) loss of normal hypoechoic retroplacental zone;
  - (ii) multiple vascular lacunae (irregular vascular spaces) within placenta, giving a "Swiss cheese" or "moth-eaten" appearance; the presence of lacunae in the placenta at 15-20 weeks has been found to be the most predictive sonographic sign of placenta accreta, with a sensitivity of 79% and a positive predictive value of 92%; the risk of placenta accreta increases with an increased number of lacunae;
  - (iii) blood vessels or placental tissue bridging uterine-placental margin, myometrial-bladder interface, or crossing uterine serosa;
  - (iv) retroplacental myometrial thickness of  $<1$  mm; (v) numerous coherent vessels visualized with 3D power Doppler in basal view; in the majority of cases, power and color Doppler do not significantly improve the diagnosis over that achieved by grayscale sonography alone;
  - (vi) first trimester ultrasound findings of gestational sac in the lower uterine segment and gestational sac abnormally close to uterine scar.



Placenta Accreta

1. If the ultrasound examination is equivocal, consider magnetic resonance (MR) imaging. Initial studies suggested that MR imaging was more sensitive than ultrasound in diagnosing placenta accreta, but recent studies have found no difference between the two modalities (with a sensitivity of approximately 50%). MR imaging may be particularly useful for posterior previa, a situation in which ultrasound is more limited.
2. Serial ultrasound examinations may be useful to follow placental location, fetal presentation, fetal growth, and sonographic markers of placenta accreta.
3. As pregnancy progresses, >90% of low-lying placentas identified early in pregnancy will appear to move away from the cervix and out of the lower uterine segment.
4. This is thought to be due to the placenta preferentially growing towards a better vascularized fundus, whereas the placenta overlying the less well-vascularized cervix may undergo atrophy.
5. In some cases, this atrophy leaves vessels running through the membranes, unsupported by placental tissue or cord (vasa previa). In cases where the atrophy is incomplete, a succenturiate lobe may develop.



Placenta Accreta

1. A placenta previa requires delivery by cesarean. In a stable patient, cesarean should be performed at 36 0/7-37 6/7 weeks of gestation.
2. Controversy exists as to the mode of delivery when the placenta lies in proximity to the internal os. Three small retrospective studies suggest that women with placenta previa should have a transvaginal ultrasound in the late 3rd trimester and that those with a placenta-internal os distance of less than 2 cm should be delivered by cesarean. Another small retrospective study demonstrated that more than two-thirds of women with a placental edge to cervical os distance of >10 mm deliver vaginally without increased risk of hemorrhage.
3. The goal of antepartum management in the setting of placenta accreta is to maximize fetal maturation while minimizing risk to mother and fetus. Nonreassuring fetal testing ("fetal distress") and excessive maternal hemorrhage are contraindications to expectant management, and may necessitate immediate cesarean irrespective of gestational age. Contraindications to emergency cesarean include a previable fetus (< 23-24 weeks), intrauterine fetal demise, maternal hemodynamic instability or uncontrolled coagulopathy, or failure to obtain maternal consent for surgery.



Placenta Accreta

- 1. In the setting of placenta previa and suspected placenta accreta, the recommended management is planned preterm cesarean hysterectomy with the placenta left in situ because removal of the placenta is associated with significant hemorrhagic morbidity. The results of a recent decision analysis suggested that combined maternal and neonatal outcomes are optimized in stable patients with ultrasonographic evidence of placenta previa and placenta accreta with delivery at 34 weeks of gestation without amniocentesis. ACOG supports delivery at 34 0/7-35 6/7 weeks of gestation for placenta previa with suspected accreta, increta or percreta.**
- 2. Preoperative consultation with anesthesiology and notification of the blood bank are indicated before scheduled surgery. Additional surgical services such as gynecologic oncology, urology, general surgery, neonatology, interventional radiology and/or vascular surgery may provide additional surgical expertise if needed. Use of a preoperative summary, or checklist may be helpful to confirm that needed preparations have been made and to identify the name and contact information for consultants in case they are needed for intraoperative or perioperative assistance.**



Placenta Accreta



1. Consider mode of anesthesia (usually general endotracheal anesthesia and possible epidural for postoperative pain control), utility of central monitoring (arterial line, central venous line and/or Swan-Ganz catheter), preoperative cystoscopy and stenting of ureters, use of cell saver equipment and/or normovolemic hemodilution to minimize need for blood transfusion, adequate suction capacity, blood warmers, body warmers, and pneumatic compression stockings (for DVT prophylaxis).
2. The uterine incision should be located such that it avoids the placenta. A classical uterine incision, often transfundal, may be necessary to avoid the placenta and allow delivery of the infant. In some cases, a posterior uterine wall incision after exteriorization of the uterus may be desired.

