

Alice Dawson

4th year

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PLACENTAL ABRUPTION

Definition: The premature separation of a normally sited placenta from the uterine wall that occurs before the delivery of the fetus.

Classifications:

Revealed: Blood escapes through the vagina. In greater than two-thirds of cases the separation is at the edge of the placenta, allowing blood to track down to the cervix and reveal itself as vaginal bleeding.

Concealed: Bleeding occurs behind the placenta, with no evidence of bleeding from the vagina.

Partial: affecting only part of the placenta.

Total: involving the whole placenta.

Risk Factors:

- Hypertension
- Smoking
- Trauma to abdomen
- Cocaine use
- Anticoagulant therapy
- Polyhydramnios
- Fetal Growth Restriction
- Multiple pregnancy
- previous placental abruption

Epidemiology

Placental abruption has been documented as complicating between 0.4% - 2% of pregnancies^{1, 2}. The incidence quoted changes dependent on criteria used for diagnosis, although the incidences are mostly based on epidemiological studies using medical records. Histological examination of the placenta suggest that the incidence is much higher, perhaps around 4%, but this includes cases which are clinically silent.³

The incidence has risen slightly over recent years; more in black women than in Caucasian women.

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Aetiology

There is no clear aetiology or pathophysiology for placental abruption. However, some causes include:

Direct trauma to the abdomen

Indirect trauma may cause shearing force to separate the placenta from the uterine wall.

Uterine over-distension (such as in multiple pregnancies or polyhydramnios)

Vasospasm caused by cocaine usage may lead to placental abruption

Pathological examination of placental bed biopsies taken from women who had placental abruption revealed in three-fifths of the samples a lack of trophoblastic invasion, similar to that seen in preeclampsia⁴.

Clinical features

Classical triad of:

- Abdominal pain
- Vaginal bleeding
- Uterine contractions

As mentioned in classification, the bleeding may be concealed, so it is important not to erroneously exclude placental abruption in the absence of bleeding.

The uterus is usually tender to palpation and may feel “woody” in consistency. The fetus can be difficult to palpate. The affect on the fetus is dependent on the size and location of the abruption; it can be unaffected, distressed or dead⁵. Death of the fetus is common when more than 50% of the placenta is separated.⁶

In cases of large placental abruption patients may present with shock or collapse.

Differential diagnosis⁷

Preterm labour: bleeding is usually light rather than severe

Placenta praevia: bleeding is usually painless

Chorioamnionitis: bleeding is uncommon; patient may be febrile

Acute appendicitis: absence of vaginal bleeding; pain often localised to RIF; associated symptoms may include anorexia, vomiting, fever

Acute pyelonephritis: absence of vaginal bleeding; associated symptoms may include dysuria, fever, rigors; loin pain

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UTI: absence of vaginal bleeding; dysuria

Degeneration of uterine fibroids: absence of vaginal bleeding; point tenderness over the location of the fibroid

Investigations

Diagnosis is usually made clinically. Ultrasound is not normally helpful.

Fetal monitoring is useful and should initially be constant.

Hb and hct should be ordered in patients with suspected abruption.

Coagulation studies can be ordered; DIC can occur in patients with placental abruptions sizable enough to cause fetal death.

Management

Large placental abruption is a medical emergency.

Emergency management:

ABC as in any emergency. In cases of large volume blood loss, severe haemorrhage management algorithms should be followed.

If fetus is alive: Urgent delivery, usually emergency caesarean section, without compromising maternal resuscitation

If fetus is dead: accelerate delivery by artificial rupture of membranes

In smaller degrees of placental abruption where gestational age of the fetus would mean an improved fetal outcome with delayed delivery, conservative management can be instituted:

Monitoring of fetal well-being

USS fetal growth

Amniotic fluid volume measurement

Umbilical artery Doppler

Prognosis

The mother is at risk of: hypovolaemic shock; acute renal failure secondary to hypoperfusion; DIC; fetomaternal haemorrhage (important to remember rhesus status of mothers: anti-D immunoglobulin may be required).

The fetus is at risk of: hypoxia following the separation of the placenta from the uterine wall; death.

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The prognosis changes dependant on the degree of abruption and the gestational age at which it occurs. Instances where placental separation is greater than 50% or where the fetus is extremely preterm lead to high risk of perinatal mortality.

¹Y. Oyelese and A. Vintzileos. 2012. *Placental Abruptio* BMJ Best Practice monograph. Last updated 25/04/12. Accessible at: <http://bestpractice.bmj.com/best-practice/monograph/1117/highlights.html>

²Philip N Baker and Louise C Kenny ed., 2011. *Obstetrics by Ten Teachers: 19th Edn.*, London, Hodder Arnold

³ Philip N Baker and Louise C Kenny ed., 2011. *Obstetrics by Ten Teachers: 19th Edn.*, London, Hodder Arnold

⁴ Dommissie J, Tiltman AJ. Placental bed biopsies in placental abruption. *Br J Obstet Gynaecol.* 1992;99:651-654.

⁵ Philip N Baker and Louise C Kenny ed., 2011. *Obstetrics by Ten Teachers: 19th Edn.*, London, Hodder Arnold.

⁶ Ananth CV, Berkowitz GS, Savitz DA, et al. Placental abruption and adverse perinatal outcomes. *JAMA.* 1999;282:1646-1651

⁷ BMJ Best Practice monograph: *Placental Abruptio*: Y. Oyelese and A. Vintzileos. Last updated 25/04/12. <http://bestpractice.bmj.com/best-practice/monograph/1117/highlights.html>