Miscarriage - Management

Scenario: Presentation of miscarriage

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What are the clinical features of miscarriage?

- **Ectopic pregnancy must be excluded before diagnosing miscarriage in women presenting with pain or bleeding in the first 14 weeks of pregnancy.** A separate CKS topic is planned to cover the diagnosis of the cause of bleeding or pain in early pregnancy.
- **Threatened miscarriage** presents with vaginal bleeding in the first 24 weeks of pregnancy.
  - Bleeding is typically scanty, varying from a brownish discharge to bright red bleeding and may recur over several days.
  - Lower abdominal cramping pain or lower backache, when it occurs, usually develops after the onset of bleeding.
  - Tenderness of the abdomen or pelvis may be present on examination, and if present, ectopic pregnancy must be excluded.
  - The cervical os is closed.
- **Inevitable miscarriage** presents with the same symptoms as threatened miscarriage, although generally the symptoms are more severe. On examination, the internal cervical os is open or products of conception are found.
- **A completed miscarriage** presents with resolving symptoms and signs of a miscarriage.
- **A missed (or delayed) miscarriage:**
  - **May present with resolving symptoms of pregnancy in women with no pain or bleeding.** The fetal heartbeat is undetectable and the uterus may be small for dates.
  - **May be found incidentally during a routine ultrasound assessment** of pregnancy.

Basis for recommendation

The clinical features of miscarriage are based on those reported by experts in textbooks [Porter et al, 2008].

What else might cause bleeding in early pregnancy?

- **Uterine bleeding in early pregnancy** may also occur with:
  - **Ectopic pregnancy** (see the CKS topic on Ectopic pregnancy) — presents at 5–14 weeks of gestation (very rarely later that this); the woman has a closed cervical os, and any of the following:
    - Cardiovascular shock.
    - An episode of fainting.
    - Shoulder tip pain on lying down.
    - Any abdominal pain.

- Abdominal tenderness on examination.
- Cervical excitation or adnexal tenderness.
- **Molar pregnancy** — commonly presents with bleeding in early pregnancy. Fetal heart sounds are absent. It is more likely if any of the following are present:
  - Bleeding is heavy and prolonged.
  - Symptoms of pregnancy are exaggerated.
  - The uterus is large for dates.
  - Vesicles are passed.
- **A viable intrauterine pregnancy.**

- **Extrauterine causes of bleeding in early pregnancy** include:
  - Urethral bleeding.
  - Cervical ectropion.
  - Cervical polyps.
  - Gynaecological cancers.
- **Causes of pregnancy-related abdominal pain** include:
  - Ruptured ovarian cyst.
  - Adnexal torsion.
  - Pregnancy-related degeneration of a fibroid.
- **Causes of non-pregnancy-related abdominal pain** include:
  - Pelvic inflammatory disease/cervititis.
  - Ovarian torsion.
  - Appendicitis.
  - Urinary tract infection.
  - Renal colic.
  - Torsion of a fibroid.

Basis for recommendation

The clinical features of the differential diagnoses of miscarriage are based on the those reported in a textbook [Porter et al, 2008].

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How should I manage someone with a suspected first trimester miscarriage?

▪ **For women with severe pain or bleeding, or who are shocked** — arrange immediate ambulance transfer to hospital.

▪ **For women with a threatened or suspected complete miscarriage** — arrange for the woman to be seen at an early pregnancy assessment unit for confirmation of the diagnosis. Advise the woman to seek medical advice if symptoms deteriorate while awaiting assessment.

O Approximately 50% of women with a threatened miscarriage will miscarry.

O Approximately 75% of women will miscarry if they have any of the following features:

O Bleeding that is increasing.

O Bleeding that is heavier than a normal menstrual period.

O Bleeding with clots.

O A history of continued pregnancy-associated vomiting associated with bleeding in early pregnancy decreases the risk of miscarriage to approximately 30%.

▪ **For women with a suspected missed (delayed) miscarriage** — arrange for the woman to be seen at an early pregnancy assessment unit.

Basis for recommendation

Women with severe pain or bleeding or who are shocked

▪ Immediate admission to hospital is accepted as good clinical practice.

Assessment of pregnancy viability

▪ The assessment of women with a suspected miscarriage in an early pregnancy assessment unit is recommended by experts to ensure an accurate diagnosis [RCOG, 2006]. This is based on evidence on the limitations of clinical features to distinguish a viable pregnancy from a miscarriage.

O In a prospective study of 739 women with bleeding in the first 24 weeks of pregnancy, the clinical features were recorded for each woman and a trans-vaginal ultrasound scan was undertaken to establish a definite diagnosis [Chung et al, 1999].

O The clinical features associated with an inevitable miscarriage were the only features that could reliably distinguish miscarriage from a viable pregnancy.

O Bleeding that was increasing, bleeding that was heavier than a normal menstrual period, and bleeding with clots were associated with a 75% miscarriage risk.

- A history of continued pregnancy-associated vomiting was associated with a decreased miscarriage risk of 30%.

How is a diagnosis made in secondary care?

- Following referral to an early pregnancy assessment unit, ultrasonography (usually a trans-vaginal ultrasound scan) is used to assess the location and viability of the pregnancy.
- If this can not clearly establish the location and viability of the pregnancy, other investigations may include:
  - Serum beta-human chorionic gonadotropin (hCG).
  - Serum progesterone.
  - Repeated trans-vaginal ultrasound scans.

Basis for recommendation

This information is based on guidelines from the Royal College of Obstetricians and Gynaecologists for the assessment of women with bleeding in early pregnancy [RCOG, 2006].

Miscarriage - Management

Scenario: Managing confirmed first trimester miscarriage

CKS safe practical clinical answers - *fast*

How can inevitable first trimester miscarriage be managed in primary care?

- **For women with an inevitable miscarriage who are hemodynamically stable,** explain that:
  - Miscarriage may be complete or incomplete, and this can only be reliably determined by an ultrasound examination.
  - If miscarriage is complete, symptoms should resolve without any intervention.
  - If miscarriage is incomplete, the management options include:
  - **Admission for surgical evacuation** of retained products of conception. This has the advantage that symptoms resolve rapidly but has the disadvantage of risks associated with an operation.
  - **Admission for medical treatment** with prostaglandin analogues to stimulate uterine expulsion of the retained products of conception. This has the advantage of avoiding the risks of an operation. There is a risk of increased pain and bleeding, persistent symptoms following treatment, and of treatment failure requiring surgical evacuation.
  - **Conservative management at home** to allow resolution without other interventions. This has the advantage of avoiding hospitalization and the risks of an operation. Explain that the symptoms may take several weeks to resolve and sometimes surgical intervention is required for failed conservative management.

▪ **For women who prefer surgical or medical intervention for an incomplete miscarriage,** arrange for them to be seen at an early pregnancy assessment unit to determine the completeness of the miscarriage.

▪ **For women with an inevitable miscarriage who wish to be managed at home:**

O Advise that complete resolution of symptoms may take several weeks.

O Advise the woman to seek medical advice if:

O Symptoms become unacceptable.

O Symptoms of infection develop (fever, general malaise, smelly vaginal discharge).

O Arrange follow up to assess the woman's psychological well-being. For further information, see Psychological support.

O Consider the need for anti-D immunoglobulin. For further information, see When to give anti-D immunoglobulin.

Basis for recommendation

Inevitable miscarriage

▪ The reliability of the clinical assessment to make a diagnosis of inevitable miscarriage is based on evidence from a prospective study of 739 women with bleeding in the first 24 weeks of pregnancy [Chung et al, 1999].

O The clinical features associated with bleeding in pregnancy were recorded for each woman and a trans-vaginal ultrasound scan was undertaken to establish a definite diagnosis.

O An open internal cervical os and products of conception seen on examination were the only features that could reliably distinguish miscarriage from a viable pregnancy.

▪ Conservative management is recommended by experts as an effective and acceptable management option for women with a confirmed miscarriage based on evidence for its efficacy and safety [RCOG, 2006].

What psychological support can I offer a woman following a miscarriage?

▪ Ensure that arrangements for routine antenatal care are cancelled if they have been started.

▪ Ensure that all women are offered a follow-up appointment. At follow up:

O Assess the woman's psychological well-being and offer counselling if appropriate. Be aware that:

O Grief, anxiety, and depression are common following miscarriage.

O Grief following miscarriage is comparable in nature, intensity, and duration to grief reactions in people suffering other types of major loss.

O Distress is commonly at its worst 4–6 weeks after a miscarriage and may last 6–12 months.

O Give the woman an opportunity to discuss any questions she has about her miscarriage.

- Patient information about miscarriage and its management is available from:

  - The Royal College of Obstetricians and Gynaecologists, in their leaflet Early miscarriage: information for you (pdf).

  - The Miscarriage Association's website. In addition they provide patient information leaflets including:

  - We are sorry you have had a miscarriage (pdf), which provides general information about miscarriage and what to expect following a miscarriage.

  - Antiphospholipid syndrome and pregnancy loss (pdf)

  - Blighted ovum (pdf)

  - Investigations following recurrent miscarriage (pdf)

  - Management of Miscarriage: surgical, medical, natural (pdf)

  - Men and miscarriage (pdf)

  - Miscarriage and the workplace (pdf)

  - Pregnancy loss — how you might feel (pdf)

  - Pregnancy loss and infertility (pdf)

  - Preparing for another pregnancy (pdf)

  - Someone you know — a leaflet for family and friends (pdf)

  - Talking to children about pregnancy loss (pdf)

  - Why did it happen to us? (pdf)

Basis for recommendation

Assessing and supporting the psychological well-being of women following miscarriage is widely recommended by experts [RCOG, 2006] based on evidence on the prevalence and severity of psychological distress following miscarriage [Brier, 1999; Brier, 2004; Brier, 2008].

What advice should I give about sex and contraception following miscarriage?

- **Advise avoidance of sexual intercourse** until miscarriage symptoms have completely settled.

- **Explain that menstruation can be expected to resume within 4–8 weeks** of the miscarriage, but may take several cycles to re-establish a regular pattern.

- **For women who wish to become pregnant**

  - Advise that they can do so as soon as they feel psychologically and physically ready. A patient information leaflet to support this advice is available from the Miscarriage Association, titled Preparing for another pregnancy (pdf).

  - Offer pre-conception advice. For further information, see the CKS topic on Pre-conception - advice and management.

- **For women who do not wish to become pregnant,** advise the use of contraception immediately after the miscarriage. For further information, see the CKS topic on Contraception.

Basis for recommendation

These recommendations are based on expert advice published by the Royal College of Obstetricians and Gynaecologists [RCOG, 2008].

When should I give anti-D immunoglobulin following a miscarriage?

- Non-sensitized rhesus-negative women should receive anti-D immunoglobulin if:
  - A miscarriage or threatened miscarriage occurs after at least 12 weeks of pregnancy.
  - Miscarriage is managed by surgical or medical evacuation of the uterus at any gestation.
  - A threatened miscarriage is associated with heavy or recurrent bleeding or pain before 12 weeks of pregnancy.
- Anti-D immunoglobulin is normally given in secondary care.

Basis for recommendation

These recommendations are based on guidelines from the Royal College of Obstetricians and Gynaecologists to reduce the risk of maternal sensitization [RCOG, 2006].

How should I manage a woman with recurrent miscarriage?

- Offer referral to all women who have had three or more miscarriages for investigation of the cause.
- Advise that it may not be possible to determine the cause of recurrent miscarriage.
- Following referral, the woman is likely to be offered:
  - Investigations for genetic abnormalities in both partners.
  - Investigations for fetal genetic abnormalities (if fetal tissue is available).
  - Pelvic ultrasound scan to detect uterine abnormalities (such as fibroids).
  - Assessment for antiphospholipid antibodies and possibly other immunological abnormalities.
- A patient information leaflet produced by the Miscarriage Association is available on Investigations following recurrent miscarriage (pdf).

Basis for recommendation

These recommendations are based on guidelines from the Royal College of Obstetricians and Gynaecologists on investigating and treating couples with recurrent miscarriage [RCOG, 2003].

What secondary care management may be offered for a confirmed first trimester miscarriage?

- The choice of management for a confirmed first trimester miscarriage is largely based on the woman's preference, unless there are clinical indications for surgical intervention.

- **Surgical uterine evacuation using suction curettage** — should be offered to all women. It is clinically indicated for managing miscarriage associated with persistent excessive bleeding, haemodynamic instability, infected retained products of conception, and suspected trophoblastic disease.
  - It has the advantage of rapid resolution of symptoms.
  - Approximately 2% of women experience a serious complication of surgery, which may include:
  - Uterine perforation.
  - Cervical tears.
  - Intra-abdominal trauma.
  - Intrauterine adhesions and haemorrhage.
- **Medical uterine evacuation using prostaglandin analogues** to stimulate uterine expulsion of the products of conception. This should be offered to all women unless there is a clinical indication for surgical evacuation.
  - It has the advantage of avoiding the risks of an operation and allows the woman to feel more in control.
  - There is a risk of increased pain and bleeding following treatment, and symptoms may persist for several weeks.
  - Surgical intervention may be required if products of conception are retained despite medical treatment. The success of medical treatment is largely dependant on the type of miscarriage being treated. Medical treatment for incomplete miscarriage is most likely to be successful; the success rate decreases when treating a missed miscarriage.
- **Conservative management** allows natural resolution of the miscarriage without any intervention. It should be offered to all women unless there is a clinical indication for surgical evacuation.
  - It has the advantage of avoiding hospitalization and the risks of an operation.
  - Symptoms may take several weeks to resolve. Some women require surgical evacuation for failed conservative management.

Basis for recommendation

This information is based on the treatment options recommended by the Royal College of Obstetricians and Gynaecologists [RCOG, 2006].