MISCARRIAGE AND ECTOPIC PREGNANCY 1: AN OVERVIEW

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MISCARRIAGE

Miscarriage is defined as premature expulsion of an embryo or foetus from the uterus before 24 weeks’ gestation (Royal College of Obstetricians and Gynaecologists, 2006a). It is considered the most common medical complication in humans (Campbell and Monga, 2000). The vast majority occur before 12 completed weeks of pregnancy, with 15–20% of all pregnancies ending in miscarriage (Farquharson et al, 2005). This relates annually to 50,000 inpatient admissions to hospitals in the UK (RCOG, 2006b). Some 1–2% of women experience recurrent miscarriage, defined as three early pregnancy losses (Farquharson et al, 2005).

Causes

Approximately half of miscarriages are due to foetal abnormality with the rest due partly to unknown causes and a variety of other reasons (Buckett and Regan, 2003). These include infections such as rubella, systemic diseases such as diabetes, abnormalities of the uterus and increasing maternal age (Topping and Farquharson, 2007).

Signs, symptoms and classification

Miscarriage has different classifications. These are important clinically as they influence the management options that may be offered to women.

LEARNING OBJECTIVES

1. Describe the classifications and signs and symptoms of miscarriage.
2. Outline the risk factors and signs and symptoms of ectopic pregnancy.

The two key signs and symptoms are vaginal blood loss and pelvic pain but the severity of these can vary depending on the classification. These variations are discussed below.

Threatened miscarriage

In this case, the woman may have slight vaginal bleeding, the cervix is closed, the uterus is of an appropriate gestational size and there may also be associated mild pelvic pain (Lewis, 2000). However, approximately half of women who bleed in the first trimester will go on to have a healthy baby (Buckett and Regan, 2003).

Inevitable miscarriage

Here the vaginal blood loss is bright red, clots are passed as the cervix opens and the membranes may have ruptured. Some of the products of conception may be passed or retained within the uterus. Pain is severe and cramping in nature due to uterine contractions and may be accompanied by backache.

Complete miscarriage: After an hour or so of heavy bleeding (Krause and Graves, 1999) all the products of conception are expelled from the uterus. They should be examined histologically to ensure there is no evidence of a hydatidiform mole. This is abnormal swelling of the placental villi and a high percentage (18–29%) will develop into a malignant tumour (Campbell and Monga, 2000).

Incomplete miscarriage: The bleeding continues for more than 24 hours (Krause and Graves, 1999) and the cervix remains open with possible risk of haemorrhage and infection. Treatment in terms of surgical or medical evacuation of retained products of conception may be required.

‘Silent’ (delayed) miscarriage

The foetus has died but the products of conception have been retained. There may be few external signs of pregnancy, the uterus does not continue to enlarge and the cervix remains closed. As the uterus fails to expel the products of conception they may be gradually reabsorbed, or by approximately 21 days the foetus will have miscarried. In some cases, there is bleeding between the chorionic villi and the uterine wall (Whitton, 2001) and there is partial reorganisation of the blood clot around the foetus with development of a carious (blood) mole.

ECTOPIC PREGNANCY

Ectopic pregnancy can be defined as a pregnancy that is implanted outside the uterus, usually in the ampullary portion of the fallopian tube, where 80% occur (Tamilian and Arulkumaran, 2004).

The sites of ectopic pregnancy are as follows (Jurkovic, 2007):

- Ampullary;
- Interstitial tubal ectopic (implantation in proximal portion of fallopian tube within the muscular wall of the uterus);
- Cervical;
- Ovarian;
- Abdominal.

The pregnancy continues to develop to the point where it will rupture the fallopian tube at around 8–12 weeks’ gestation, which is potentially a life-threatening emergency (Murray et al, 2005).

The RCOG (2004) reported that in recent years the incidence of ectopic pregnancy has remained constant at one in 80 pregnancies. This equates to 32,000 diagnosed ectopic pregnancies in the UK over a three-year period (RCOG, 2004).

Ectopic pregnancy can be difficult to
diagnose as it may mimic other conditions such as appendicitis and salpingitis. It can have serious adverse effects on women’s future fertility. For example, 10 maternal deaths due to ectopic pregnancy were recorded in 2003–2005 (deaths due to ectopic pregnancy were included in the Confidential Enquiry into Maternal and Child Health, 2007). In order to prevent deaths and optimise subsequent fertility, early diagnosis and treatment of an ectopic pregnancy is paramount (Fernandez and Gervaise, 2004).

Risk factors

Swift diagnosis is helped by an understanding of the risk factors associated with ectopic pregnancy. These are:

- Previous ectopic pregnancy;
- Tubal damage from infection/surgery;
- History of infertility/treatment for IVF;
- Increased age;
- Smoking (Tay et al., 2000).

The potential for a second ectopic pregnancy is increased in women with a previous history of the condition, particularly where the fallopian tube has been partially removed or conserved (Gangar, 2001). In addition, the incidence of ectopic pregnancy is increased in women with a history of pelvic inflammatory disease (Tay et al., 2000). One of the main causes of this disease in the UK is the sexually transmitted infection *chlamydia trachomatis*.

A further risk factor is women with a history of infertility (Gangar, 2001). Advancements in infertility treatment, for example IVF, enable women with tubal damage to conceive. However, the risk of ectopic pregnancy still remains following these assisted reproductive techniques (Jurkovic, 2007).

Increasing maternal age is also a risk factor. Nybo Andersen et al. (2000) identified that 6.9% of all pregnancies in women aged 44 years and over resulted in ectopic pregnancy compared with 1.4% of all pregnancies in women aged 21.

A final factor to consider is smoking. Coste et al. (1991) identified that women who smoked at the time of conception had an increased risk of ectopic pregnancy. The correlation between female smokers and this increased risk has been demonstrated due to the alteration in tubal motility and ciliary function following injection of nicotine.

It is important to note, however, that in a number of women diagnosed with ectopic pregnancy no risk factors can be identified (Tay et al., 2000).

Recognising ectopic pregnancy

Women can present with a wide variety of symptoms, which can make accurate diagnosis problematic (Jurkovic, 2007).

The classic clinical triad of ectopic pregnancy is considered to be pain, amenorrhoea and vaginal bleeding but only 50% of patients may present with this. Nausea, vomiting, fatigue and amenorrhoea, although present in normal intrauterine pregnancies, can also present in women with ectopic pregnancy (Masburn, 1999). Additional symptoms include abnormal vaginal bleeding or spotting, pain and adnexal mass. These are frequently but not always seen in patients with ectopic pregnancy (Masburn, 1999).

The signs and symptoms are summarised as follows (Jurkovic, 2007):

- The classic clinical triad of ectopic pregnancy is pain, amenorrhoea and vaginal bleeding;
- Patients may present with other symptoms common to early pregnancy, including nausea, breast fullness, fatigue, low abdominal pain, heavy cramping, shoulder pain and recent dyspareunia;
- Half have a palpable adnexal mass, and 75% may have abdominal tenderness;
- There is increased age;
- There is a history of infertility (Tay et al., 2000).

The key symptoms of ectopic pregnancy are:

- Low abdominal pain, heavy cramping, shoulder pain and recent dyspareunia;
- Half have a palpable adnexal mass, and 75% may have abdominal tenderness;
- Nausea, vomiting, fatigue and amenorrhoea;
- Pain is usually on the affected side of the pelvis;
- An increased risk of ectopic pregnancy.

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**KEY REFERENCES**

- The full reference list for this unit is available in Portfolio Pages at nursingtimes.net

Approximately 20% of patients with ectopic pregnancies are haemodynamically compromised at initial presentation, which is highly suggestive of tubal rupture. A ruptured ectopic pregnancy has significant physical findings as women may be haemodynamically compromised, can present with abdominal pain and tenderness, with fainting an important sign (CEMACH, 2007). An uncommon but important symptom is shoulder tip pain, which is caused by blood leaking from the ectopic pregnancy and irritating the diaphragm (Tamizian and Anilkumar, 2004).

Part 2 of this unit, to be published in next week’s issue, discusses diagnosis, management and key nursing interventions in miscarriage and ectopic pregnancy.