

**Headline:** Ectopic pregnancy – the midwives role in the community setting

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**Standfirst:** Key learning points:

1. Signs, symptoms and management of an Ectopic Pregnancy
2. Physical and psychological impact
3. Appropriate referral processes

Ectopic pregnancy (EP) is estimated to occur in one out of 80 women.<sup>1</sup> Midwives and nurses are often the first port of call for a woman and therefore the importance of understanding the signs and symptoms of EP to ensure prompt referral and accurate advice is essential.<sup>2,3</sup> This article will discuss those signs and symptoms and link to best practice guidance (CG154) from the National Institute for Clinical Excellence (NICE).<sup>4</sup> An EP cannot be diagnosed in the community meaning that it is key to ensure that the patient is referred promptly to an early pregnancy assessment unit (EPAU) any signs and symptoms of EP are displayed. Royal College of Obstetrics and Gynaecology (R.C.O.G, 2004). It is therefore essential that a midwife has an understanding of the signs and symptoms in order for prompt and appropriate referral. Midwifery and nursing curriculums should ensure that they have the most up to date evidence to share with students to ensure they have the knowledge and expertise on qualification.

### Case study

Gemma, aged 37 and her partner Ben had been undergoing IVF treatment for a year and were delighted when they had a positive pregnancy test. They were invited back to the IVF clinic for an ultra sound scan but there was no uterine pregnancy seen. Gemma was asked to return the following week as the ultra-sonographer suggested that the embryo might be too small to see. Following the scan, Gemma experienced some blood spotting and some mild one sided abdominal pain. Gemma telephoned her friend who told her not to worry as she also had a bit of spotting in early pregnancy. That evening, Gemma awoke with excruciating pain in her left shoulder and noticed that her bleeding was very dark in colour. Gemma also felt “not right” and looked pale. Ben telephoned NHS direct who suggested that she go to the emergency department. Gemma was seen straight away by a gynaecological registrar who undertook another scan and could see bleeding into the pouch of Douglas in her uterus and noted that Gemma experienced great pain in her cervix when examined. Gemma was taken straight to theatre and had a laparotomy, followed by removal of her fallopian tube. Gemma suffered a 1000ml blood loss and was diagnosed as having had a ruptured ectopic pregnancy.

### What is an ectopic pregnancy?

An ectopic pregnancy occurs when a fertilized ovum implants outside of the uterus, commonly in one of the fallopian tubes. The signs and symptoms may vary and diagnosis usually occurs between five and 13 gestational weeks. If an EP goes undetected and “ruptures” this can lead to haemorrhage and death.<sup>5,6</sup> There are around 32,000 hospital admissions every three years in the UK and numbers are increasing worldwide.<sup>7,8</sup> A crucial sign that a midwife should be observing for is shoulder tip pain, one-sided abdominal pain

and scant dark coloured bleeding. The majority of EPs will implant in the fallopian tube, however, there is an increase in the number of caesarean section scar EP implantations.<sup>9</sup>

### **Who is at risk?**

Any sexually active woman is at risk of an EP.<sup>6</sup> There are conditions that put a woman at an increased risk, these include:

1. Women who have damaged fallopian tubes through infection or sexually transmitted disease such as chlamydia.
2. Women who smoke **because this may** cause damage to the cilia in the fallopian tube.
3. Women who have had previous tubal surgery and surgery such as appendicitis.
4. Women who have had a previous lower segment caesarean section (LSCS).<sup>10</sup>

Midwives and nurses need to understand the risk factors and be prepared to counsel women, especially those who may have had a previous LSCS.<sup>3</sup> A reasonable approach to tackle this issue would be to ensure women are informed about risk factors for developing an EP following a LSCS or appendix removal to ensure awareness of future signs and symptoms.

### **Diagnosis**

Most women will present with a history of blood spotting and pelvic pain. The woman may not know that she is pregnant and it is imperative that every woman who presents with spotting and abdominal pain is tested for the human chorionic gonadotrophin (HCG) hormone, remembering that sometimes, the levels are too small to be picked up by a standard over the counter pregnant test. However, occasionally an EP will be detected in an asymptomatic woman. These EPs tend to imitate the development of a normal uterine pregnancy until sudden rupture occurs.

The Ectopic Pregnancy Trust recommends that healthcare workers should exercise caution in all women of childbearing age in order to rule out an EP.<sup>2</sup> Diagnosis should include a number of investigations, these being testing for HCG and progesterone in the blood. In a normal uterine pregnancy HCG levels will double every 48 hours, but in an EP the levels will be low or diminishing. When a woman is being managed expectantly, her levels should be measured every 48 hours and she should be given the information about worsening symptoms. Strategies to empower a woman who may be at home but having regular blood tests could be for her to have the information in the form of a leaflet. The Ectopic Pregnancy Trust provides excellent resources that are available for women and should be in every EPAU (see Resources section). A woman should be offered a transvaginal ultra sound scan and a vaginal examination which may demonstrate cervical tenderness, however it is important to understand that diagnosis cannot always be attained simply through examination. Increased risk of mortality and morbidity often relate to the interval between diagnosis and treatment.<sup>11</sup>

### **Signs and symptoms**

We have learnt that some women who have an EP display no symptoms. More commonly women will present with some of the symptoms below:

- Abdominal pain.
- Bleeding (“prune juice” colour).
- Positive pregnancy test.
- Missed/late period.
- Bladder/bowel problems (caused by pressure in bowels from blood collecting in the pouch of Douglas).
- Shoulder tip pain.
- Pallor.
- Dizziness.
- Collapse.
- Feeling “not right”.

It is crucial to establish the colour of the bleeding. The prune juice colouring should raise concern and shoulder tip pain is a classical sign of potential tubal rupture alongside (usually) one sided lower abdominal pain. A number of confidential enquiries into maternal deaths have described cases where women’s symptoms of EP were dismissed as gastro-intestinal and urinary infections.<sup>12</sup> Therefore the importance in ensuring we consider EP in any woman of childbearing age cannot be under-estimated and with diagnostic testing healthcare providers are able to offer a number of options for treatment if discovered in a timely manner. Diagnosis should always be confirmed by a senior medical clinician,<sup>13</sup> so a midwife or nurse should ensure appropriate timely referral to medical colleagues if an EP is suspected.

## **Management**

NICE guidance CG154 published in 2012 recommends that all women should have access to a EPAU with specially trained staff members. There are a number of management options for consideration should an EP be diagnosed.

Laparoscopic surgery is preferable to laparotomy due to the woman having a quicker post-operative recovery time. The benefits of managing an EP laparoscopically also include a woman having a greater chance of subsequent intra uterine pregnancy<sup>1</sup> and lower rates for a recurrence of an EP.<sup>7</sup> However, the principal priority is the severity of the EP and if there are signs of rupture, a laparotomy should be undertaken without delay.<sup>4</sup> The Ectopic Pregnancy Trust suggests that emergency admission is always acceptable due to the possibility of tubal rupture.

It is considered that almost a quarter of EPs may be suitable for non-surgical management with methotrexate which can either be administered transvaginal or less commonly systemically.<sup>10</sup> The woman should have her HCG levels tested a week following methotrexate administration to ensure levels are dropping. The midwife should keep in mind that the potential for rupture may still be a risk and be ready to refer if any deterioration occurs.

Expectant management can be offered to women who may be under six weeks gestation possibly experiencing bleeding but are not experiencing pain (4). However, information should be given to the woman about when to return to the EPAU (ie, if symptoms worsen).

Women who have a LSCS scar EP implantation, although unusual, may cause greater risk of haemorrhage for the woman due to the pregnancy potentially continuing and therefore the placenta embedding itself within the scar tissue.<sup>9</sup> Careful counselling is needed in these cases and referral to centers of particular expertise may be deemed necessary to support a woman in her decision making.

### **Physical impact**

The physical impact of emergency surgery for EP includes pain, scarring and post-operative risks such as chest infections and deep vein thrombosis. Needing time away from work and/or other children may put pressure upon a woman financially.<sup>2</sup> NICE guidance says that post-surgery HCG levels should be tested until the result demonstrates no HCG in the blood. A rhesus negative woman should be routinely offered anti-D prophylaxis at 250iu to all women who have had surgical management.

### **Psychological impact**

The psychological impact of an EP is an important factor for the midwife to consider when caring for a woman. The woman has suffered a loss and this needs to be acknowledged.<sup>3</sup> Relationship difficulties may ensue and there is a risk of post-traumatic stress disorder (PTSD) especially if a woman has required emergency surgery. Her fertility may be reduced due to tubal loss but the woman may be fearful of another pregnancy being an ectopic. The option for a woman to speak to a midwife post EP to acknowledge the loss should be offered. Communication with respect and dignity is central to the NICE guidance<sup>4</sup> with counselling to be offered as routine. Healthcare professions should work with women and couples in a sensitive way, being mindful to the fact that the woman is grieving.

### **Fertility following an ectopic pregnancy**

Dependent upon the management of the EP, fertility may be reduced. A woman can be advised to resume sexual activity when she feels comfortable to do so, however, it is advised that she wait for two menstrual periods until she conceives again. This is to give her body time to recover physically emotional.

It is important to have an understanding that although the woman may want to become pregnant, she may also be fearful of experiencing the same outcome. Women are at greater risk of having a second EP if she has already experienced one. The Ectopic Pregnancy Trust (EPT) suggests that approximately 65% of women have a successful pregnancy within two years of their EP. Midwives can signpost women to support groups where women may find practical help and a shared experience with other women. The woman's partner is likely to have questions and anxieties following an EP and an awareness of the partner's emotions, especially when the woman may have suffered emergency surgery, is an important consideration for the healthcare professional.

## Conclusion

Health professionals need to be aware of the signs and symptoms of an EP and recognize that diagnosis cannot be made in the community therefore prompt and appropriate referral to an EPAU is essential. A ruptured ectopic can be a life threatening situation and symptoms are not always typical. An EP should be ruled out in any woman of childbearing age who might be pregnant and presenting with lower abdominal pain and scanty, dark red (prune juice coloured) bleeding. Mindfulness of the psychological effect that a loss of a baby through an EP needs acknowledgement and sensitive support as well as caring for physical pain and post-operative needs. Referral to organisations such as The Ectopic Pregnancy Trust may provide helpful support and information for a woman and useful evidence based advice for health professionals.

## Resources

**The National Institute for Health and Care Excellence** – [nice.org.uk/guidance/cg154](http://nice.org.uk/guidance/cg154)

**The Royal College of Obstetricians and Gynaecologists** –  
[rcog.org.uk/globalassets/documents/guidelines/gtg21\\_230611.pdf](http://rcog.org.uk/globalassets/documents/guidelines/gtg21_230611.pdf)

**The Royal College of Obstetricians and Gynaecologists** –  
[rcog.org.uk/globalassets/documents/guidelines/ca8-15072010.pdf](http://rcog.org.uk/globalassets/documents/guidelines/ca8-15072010.pdf)

**The Ectopic Pregnancy Trust** –  
[ectopic.org.uk](http://ectopic.org.uk)

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