EASILY MISSED?
Ectopic pregnancy

Sheikha Al-Jabri, Michael Malus, Togas Tulandi

In women of reproductive age, ruling out ectopic pregnancy is mandatory as it is still the leading cause of death in the first trimester of pregnancy. This needs a high index of suspicion and an early pregnancy test. A negative test result excludes ectopic pregnancy, and a positive result demands further clinical, biochemical, and ultrasound examination to exclude or confirm ectopic pregnancy. The possibility of medical treatment for ectopic pregnancy makes early diagnosis even more important.

How common is it?
The estimated incidence of ectopic pregnancy in the United Kingdom is 11.1 per 1000 reported pregnancies. However, some of these cases could be misdiagnosed. A retrospective study estimated that 12% of ectopic pregnancies were missed at initial presentation. In a prospective consecutive case series among women with ectopic pregnancy who attended the emergency department, 45% were discharged with a wrong diagnosis.

Why is it missed?
In a review of 31 cases of missed ectopic pregnancy, several important factors contributing to misdiagnosis were identified:

- Failure to consider a possible pregnancy
- Failure to place importance on known risk factors
- Failure to consider an ectopic pregnancy in the differential diagnosis
- Failure to correlate serum concentration of β human chorionic gonadotropin (β hCG) with results of transvaginal ultrasound
- Failure to arrange suitable follow-up.

Why does this matter?
Early diagnosis reduces morbidity and mortality, as most ectopic pregnancies can now be treated safely and effectively with methotrexate. In most cases, surgery is no longer needed. Late diagnosis could lead to tubal rupture and haemoperitoneum, requiring emergency surgery and removal of the fallopian tube.

How is it diagnosed?

**Clinical features**

Traditionally, the diagnosis of ectopic pregnancy is made by history of pelvic pain associated with amenorrhea, and a positive pregnancy test with or without vaginal bleeding. Risk factors include history of tubal ectopic pregnancy, pelvic inflammatory disease, previous tubal surgery, fertility treatment, smoking, and multiple sexual partners.

**Investigations**

A commercial urine pregnancy test can be used as a screening test in primary care. The minimal detectable levels of urinary hCG vary from 25 IU/l to 50 IU/l. Thus if clinical features are suspicious and the urine test is positive, referral for more definitive diagnosis would be warranted.

If the test for serum β hCG is readily available, it may help diagnosis. An intrauterine gestational sac is typically visible when serum β hCG concentration is beyond the discriminatory zone (1500 IU/l) at 5 weeks’ gestation. If the concentration is higher than this level and ultrasound does not show an intrauterine pregnancy but shows a complex adnexal mass, an extratubal pregnancy is almost certain. An ectopic pregnancy can also be suspected if the serum hCG concentration is not increasing or if it plateaus. If feasible, a serum β hCG test showing <1500 IU/l should be repeated in three days to follow the rate of rise; if hCG concentration does not double over 72 hours, then the pregnancy is abnormal (an ectopic gestation or failed intrauterine pregnancy).

It is not possible to repeat the hCG measurement, primary care practitioners could refer the patient to the gynaecologist for more definitive diagnosis.

In primary care, transvaginal ultrasound may not be readily available and transabdominal ultrasound is considered a useful screening test for early pregnancy complications, with a sensitivity of 80% and specificity of 78%.

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- Bronchiectasis (BMJ 2010;341:c2766)
- Endometriosis (BMJ 2010;340:c2168)
- Bilary atresia (BMJ 2010;340:c2383)
Finding an intrauterine gestation on abdominal scan effectively excludes the possibility of an ectopic pregnancy. However, ultrasound diagnosis should be made by visualising an adnexal mass rather than the absence of intrauterine sac only. For more definitive diagnosis, the sensitivity of transvaginal ultrasound to diagnose tubal ectopic pregnancy is 90.9% and the specificity is 99.9%. Progestrone concentration is higher in viable intrauterine pregnancies than in ectopic and non-viable intrauterine pregnancies, but this test is unhelpful in diagnosis as it does not distinguish ectopic pregnancies from failed intrauterine pregnancies.

How is it managed?
The optimal candidates for medical treatment with methotrexate are haemodynamically stable patients, willing and able to comply with follow-up, who have a serum β hCG concentration of ≤5000 IU/l and no fetal cardiac activity. The overall success rate of methotrexate treatment in properly selected women is about 90%, and the optimal candidates for medical treatment with methotrexate are haemodynamically stable patients, who have abdominal pain and amenorrhea with or without vaginal bleeding.

Consider risk factors for ectopic pregnancy: history of tubal ectopic pregnancy, pelvic inflammatory disease, previous tubal surgery, fertility treatment, smoking, and multiple sexual partners.

Positive results on urine or serum hCG testing
Perform transvaginal ultrasound and correlate with serum β hCG concentrations

KEY POINTS FOR DIAGNOSIS
Suspect ectopic pregnancy in women of reproductive age who have abdominal pain and amenorrhea with or without vaginal bleeding
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A 21 year old girl presents with a painless lump in her right upper lid. She says that this has been present for a few weeks and seems to be enlarging slowly. Her pharmacist suggested an antibiotic ointment, which she has been using for a few days with no benefit.

What should you cover
A chalazion, or meibomian cyst, is a focus of granulomatous inflammation within the eyelid. It arises from retained meibomian secretions. It is benign and often self limiting. It can occur in all age groups and is common in primary care.
- Patients report a slowly enlarging lump with some variability in size on a day to day basis.
- Ask about skin conditions which predispose to meibomian gland dysfunction—acne rosacea and seborrhoeic dermatitis.
- Larger chalazions may be associated with visual symptoms. Ask about blurry vision from induced astigmatism or an awareness of visual field obstruction from mechanical ptosis.
- Ask about pain, as this allows the chalazion to be differentiated from a hordeolum (a small abscess); chalazion is painless.

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10 MINUTE CONSULTATION

Chalazion

Esmaeil M Arabi, M Ross J Kelly, Zia I Carrim

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Hoarse voice

“My baby keeps bringing up his feeds!”

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What you should do

During examination, look and feel:

• Observe the facial skin for midface telangiectasia (rosacea) or an unusually “oily” or “dry” appearance (dermatitis). The patient will usually point to an obvious lump in the eyelid. Note the appearance, which should be smooth. The overlying skin is usually normal but may occasionally be indurated. Ptsis may be obvious. Swelling and redness indicate early or established infection. Observe the lid margins for crusting and a red rimmed appearance (blepharitis). Ulceration and destructive changes of the lid margin are red flag signs indicating possible malignancy and warrant referral.

• Run the tip of your finger along the eyelid margin. The lump is non-tender and can be either firm (longstanding) or soft and slightly fluctuant (early). There may be more than one lump. Tenderness and erythema are signs of infection (hordeolum). Management consists of dealing with the presenting lump and preventing recurrence:

• Most chalazions will respond to conservative treatment of applying heat and massage at least twice a day (figure). Explain that the lump is caused by an obstructed eyelid gland that contains fatty material; heat softens this material, and massage disperses it. Early treatment may lead to faster resolution. To improve compliance, explain that resolution often takes time and that several weeks of regular hot bathing may be required. Topical antibiotic preparations are of no benefit and should be avoided. Surgical management, involving incision and curettage or intraliesional triamcinolone, should be regarded as second line treatment. Infected chalazions (hordeolums), with or without cellulitis, require oral antibiotics.

USEFUL READING

Carrim ZI, Shield L. A simplified technique for the incision and curettage of chalazia. Orbit 2008; 27:401-2 (doi:10.1080/01676830701617.x)


• Prevention relies on management of blepharitis and its causes. Advise twice daily lid hygiene (heating and cleaning; figure), on a long term basis, to those with obvious blepharitis. Explain that blepharitis is a chronic condition and that flare-ups can be managed with regular lid hygiene. Lid hygiene also reduces the likelihood of a gland becoming obstructed. Consider a course of tetracycline (doxycycline 50-100 mg once daily or lymecycline 408 mg once daily for at least three months) for blepharitis that is severe or associated with rosacea. Erythromycin is a good alternative in children and pregnancy. Have a low threshold for referring young children with large chalazions on account of the risk of amblyopia. In elderly people, consider the possibility of sebaceous cell carcinoma if a chalazion fails to settle or recurs.

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