

ECTOPIC PREGNANCY

BETTER DIAGNOSIS

Morecambe Bay Hospitals Trust has now started a rapid quantitative HCG assay. This is a great benefit in the diagnosis of ectopic pregnancies, because modern urinary pregnancy tests are quite sensitive and can reliably detect a pregnancy around the time of a missed period (or even a little before this), whilst transvaginal ultrasound scan will not show an intrauterine gestation sac until about six weeks of amenorrhoea have elapsed. Abdominal ultrasound scan adds another week. If the HCG level is over 1000, a normal, continuing intrauterine pregnancy will be visible on vaginal ultrasound scan. Therefore, failure to demonstrate a clear intrauterine gestation sac, in association with an HCG over 1000 means we know we need to carry out a laparoscopy. A lower level of HCG does not rule out ectopic pregnancy, nor tell us whether an intrauterine pregnancy will miscarry or proceed, but it does make it unlikely that there will be sufficient active trophoblasts to rupture the tube.

In view of this, it is safe to watch the patient for 48 hours and then repeat the vaginal scan and quantitative HCG. Continuing normal pregnancy will be associated with a rapid rise in HCG, miscarriage with a rapid fall, and ectopic with some thing in between. We hope that the introduction of this

service will decrease the number of unnecessary laparoscopies we do, and we will audit the results and present them in a subsequent journal.

PRACTICE POINTS

Ectopic pregnancies are notorious for presenting in a variety of different ways, but the classical triad is:

- a period of amenorrhoea
- followed by vaginal bleeding
- in association with pelvic pain.

Patients with previous tubal damage eg ectopic, tubal surgery, sterilisation, reversal of sterilisation, or intrauterine device, are at higher risk.

Modern urinary pregnancy tests are very sensitive. If the pregnancy test is negative the likelihood of ectopic pregnancy is very small, and in these circumstances we would NOT rank ectopic pregnancy high in the differential diagnosis. We would seek another cause for the patient's symptoms.

D Burch , Consultant Obstetrician and Gynaecologist

THE LIMITATIONS OF ULTRASOUND

Every reader who deals with the management of pregnancy, or of lower abdominal or pelvic pain in women of childbearing age is aware of the life-threatening potential of ectopic pregnancy. Tubal rupture is a serious, potentially lethal condition which still accounts for about 15% of maternal mortality. Amongst patients clinically suspected of the condition, roughly 10% are proven correct. Other diagnoses include symptomatic ovarian cysts (17%), pelvic inflammatory disease (13%), and dysfunctional uterine bleeding 8%)⁽¹⁾.

Ultrasound scanning has an important role in management because it is used principally to decide if an intra-uterine pregnancy is present or not. Adnexal masses and free fluid are also sought. If one can be confident that a gestation sac is present in the womb, then ectopic pregnancy is highly unlikely, though possible. Such 'negative' scans may also happen when there has been no pregnancy in the first place or if it is too early in pregnancy for detection to occur.

Scan results, HCG tests and clinical observation inform the decision to proceed with laparoscopy or not. Except rarely, scanning does not show the presence or position of an extra-uterine conceptus. Scans are not done for this purpose; they are done to evaluate the uterine cavity and its contents.

Therein lies a problem specific to the **false positive** detection of an intra-uterine gestation sac. Other processes can simulate a normal pregnancy, notably a **pseudogestation sac** caused by proliferation of the endometrium plus some fluid in the cavity, which forms a decidual cast. Even with the best equipment, training and experience, it can be very difficult to be certain up to week 5 or 6 that a genuine intra-uterine sac is present.

Nine per cent of women proven to have ectopic pregnancy have **normal scans** on retrospective review. Until the time that a foetal heart is unequivocally present in a gestation sac, the possibility of ectopic pregnancy remains. Five per cent of proven ectopics bypass all imaging and go direct to surgery⁽¹⁾.

We always rescan in cases of doubt, but as a recent case has shown, collapse may occur at any time, including, naturally, the planned interval between scans. We must remain vigilant about this condition whilst understanding the limitations of ultrasound.

REFERENCE

1 Rumack, Wilson and Charboneau. Chapter 32 in *Diagnostic Ultrasound*, 2nd ed. Mosby 1998

M Flanagan, Consultant Radiologist