ECTOPIC PREGNANCY: 130 YEARS OF MEDICAL DIAGNOSTIC CHALLENGES

In the first issue of the Journal, Sir William Japp Sinclair (1846-1912), Professor of Obstetrics and Gynaecology at Owens College, Manchester and pioneer of modern gynaecological surgery describes a case of unruptured tubal pregnancy at 6 months (J Obstet Gynaecol Brit Emp 1902;1:61-6). The patient was a primigravid who presented with no menstrual period for 13 months, pain in the left iliac region, abdominal swelling and breast milk production. At laparotomy, a “cystic mass” containing a macerated fetus was removed from the left tube (Figure). The patient made a full recovery. Successful treatment of tubal pregnancy with salpingectomy was first reported in 1884 by Robert Lawson Tait (1845-1899) in Birmingham. With only one death out of 23 operated cases, he stated that his surgical procedure “is quite sufficient proof that this terrible accident is within the curative power of the surgeon, provided there is no delay in diagnosing the condition” (BMJ 1885;1303:1158). This was a marked improvement for a condition that had been almost always fatal. Major progresses have been made in diagnosis and management since, however, undiagnosed ectopic pregnancy remains a direct cause of maternal death (MBRRACE-UK, Saving lives, improving mothers’ care, 2017).

For more than seven decades since the Robert L Tait case series, the diagnosis of tubal pregnancy remained exclusively clinical and based on the maternal symptoms associated with tubal rupture. The development of bioassays to measure human chorionic gonadotropin levels in maternal urine and serum (Dorfman RI and Rubin BL, Endocrinol 1947;41:456-63), confirming the presence
of a pregnancy and of imaging techniques such as hysterosalpingography or placenta radionuclide scanning enabled surgeons to diagnose and operate on an increasing number of cases before rupture. When ultrasound imaging was first introduced in the diagnosis of tubal pregnancy, it was just as an aid to clinical diagnosis (Kobayashi et al., AJOG 1969; 103:1131-40). Over the following three decades, sonographic results were correlated and then progressively integrated with clinical symptoms and findings of other diagnostic tools such as culdoscopy in 1970s and then laparoscopy in the 1980s. High resolution transvaginal ultrasound imaging in expert hands now detects 74% of ectopic pregnancies at initial presentation. A further 24% are detected on follow-up ultrasound examination giving an overall detection rate of 98% (Kirk E et al., Hum Reprod 2007;22:2824-8).

Tubal pregnancies have been and remain the most common form of ectopic pregnancies. Caesarean scar pregnancy was recently recognised and its incidence is likely to increase due to rapid increase in caesarean section rates. Unlike, tubal pregnancies, scar pregnancies are surrounded by thick myometrial layers and thus they rarely rupture during the first trimester. They are also easier to locate on ultrasound imaging which facilities early diagnosis and treatment. This can explain the findings of the national cohort study using the UK Early Pregnancy Surveillance Service (UKEPSS) showing the high success rate of surgical management, low complication rate and short post-treatment follow up of this type extrauterine pregnancies (Harb et al., BJOG; 2018: in press).

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Disclosure of interests

We declare no conflicts of interest.

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Figure: Tumour and fetal as removed by operation. 1= Ostium abdominale; 2=
Normal ovary; 3= Fallopian tube near left corner of uterus (J Obstet Gynaecol Brit
Emp 1902;1:61-6).