INCIDENTAL ECTOPIC PREGNANCY WITH VIABLE FETUS

BY

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Abstract
Ectopic pregnancy is the implantation of fertilized ovum outside the uterine cavity. The commonest ectopic location is the ampulla of the fallopian tube. Patients often present with abdominal pain, amenorrhea and vaginal bleeding. Abdominal ultrasound reveals an empty uterus and a complex adnexial mass with or without a live embryo. This study examined an incidental finding of ectopic pregnancy in a 39 year old female who presented for routine antenatal scan at 10 weeks of gestation with a live fetus. It was found that early presentation and prompt diagnosis is essential for timely management to prevent maternal mortality. Prognosis is related to maternal age, gestational age at presentation and onset of complications.

Keywords: Ectopic pregnancy, Amenorrhea, Abdominal pain, Adnexial mass

Introduction
Ectopic pregnancy occurs when a fertilized ovum implants outside the normal uterine cavity(Dupin et al., 2024; Jeffers et al., 2024; Jurkovic & Wilkinson, 2011; Kirk et al., 2013; Sivalingam et al., 2011), it is noteworthy that most of this ectopic gestation are found in the fallopian tube while others are found in the uterine cornu , ovaries, broad ligament, cervix, caesarian scar and abdominal cavity(Fylstra, 2012; Igwegbe et al., 2013; Jurkovic & Wilkinson, 2011; Pregnancy et al., 2020).
Factors associated with increased risk of ectopic pregnancy include assisted reproductive technique, untreated Chlamydia or gonorrhea cervicitis(Hoover et al., 2010), previous abortions, progesterone only pills, intrauterine contraceptive device, smoking, previous ectopic gestation, and previous caesarian section(Farren et al., 2026; Igwegbe et al., 2013; Jurkovic & Wilkinson, 2011; Sivalingam et al., 2011).
Tubal spasm, congenital defects of the fallopian tube, emotional factors, psychological factors and increasing maternal age over 35years are also significant predisposing factors to ectopic pregnancy (Di Gennaro et al., 2022; Igwegbe et al., 2013; Stabile et al., 2024). The index case is 39years old.
The prevalence of ectopic gestation is 1-2% worldwide(Jurkovic & Wilkinson, 2011), while in Nigeria the incidence ranges between 1.2-2.7% of deliveries and peak age incidence was found to be between 26-30years(Panti et al., 2012).
The presentation of ectopic pregnancy particularly tubal gestation can be acute, acute on chronic or chronic, although the chronic type is more common , the acute form tends to receive more attention because of the manner of presentation of the patient(Dhanju et al., 2023; Panti et al., 2012; Pregnancy et al., 2020; Rodgers et al., 2024). The index case presented more as an acute on chronic.
Though transvaginal ultrasound is the modality of choice for diagnosing ectopic pregnancy, it was however the

transabdominal route that was used in the index case to diagnose the ectopic gestation. This case is being reported because of the maternal age, mode of presentation and method of diagnosis.

CASE REPORT

Mrs A.Y is a 39 year old business woman who presented to the radiology department for an abdominopelvic ultrasound scan. She was referred from the obstetric and gynaecology clinic on account of lower abdominal pain and amenorrhea of about 10 weeks from her last menstrual period.

She has four children who are alive and well. The index pregnancy is her 5th pregnancy of which she was not aware. There was no history of pelvic infection, previous miscarrige, no history of abortion or previous curretage and dilation in the past. Also there was no history of previous abdominal surgery or ectopic gestation in the past.

Patient is conscious well oriented in time, place and person, not pale, afebrile, acyanosed, and no pedal edema.

Cardiovascular examination: blood pressure -126/70 mmHg, pulse rate:83 bpm regular with good volume; Respiratory examination: 22cpm with vesicular breathsounds;

Abdominopelvic examination: soft and moves with respiration, no palpable organ enlargement, mild tenderness in the suprapubic region and right iliac fossa.

A working diagosis of ongoing cyesis based on her last menstrual period was made and some investigations were requested.

Abdominopelvic ultrasound, full blood count, electrolyte/urea/creatinine and fasting blood sugar were expected to be presented by the patient for further review and management.

Pelvic ultrasound shows a bulky and empty uterine cavity with a right adnexial mass and fluid collection in the pelvis (Figure 1). Figure 2 shows measurement of the empty uterine cavity with a live fetus with cardiac activity within a right adnexial tubal ring, while figure 3 shows measurement of fetal crown rump length of 3.34 cm at 10 weeks 2 days gestational age.

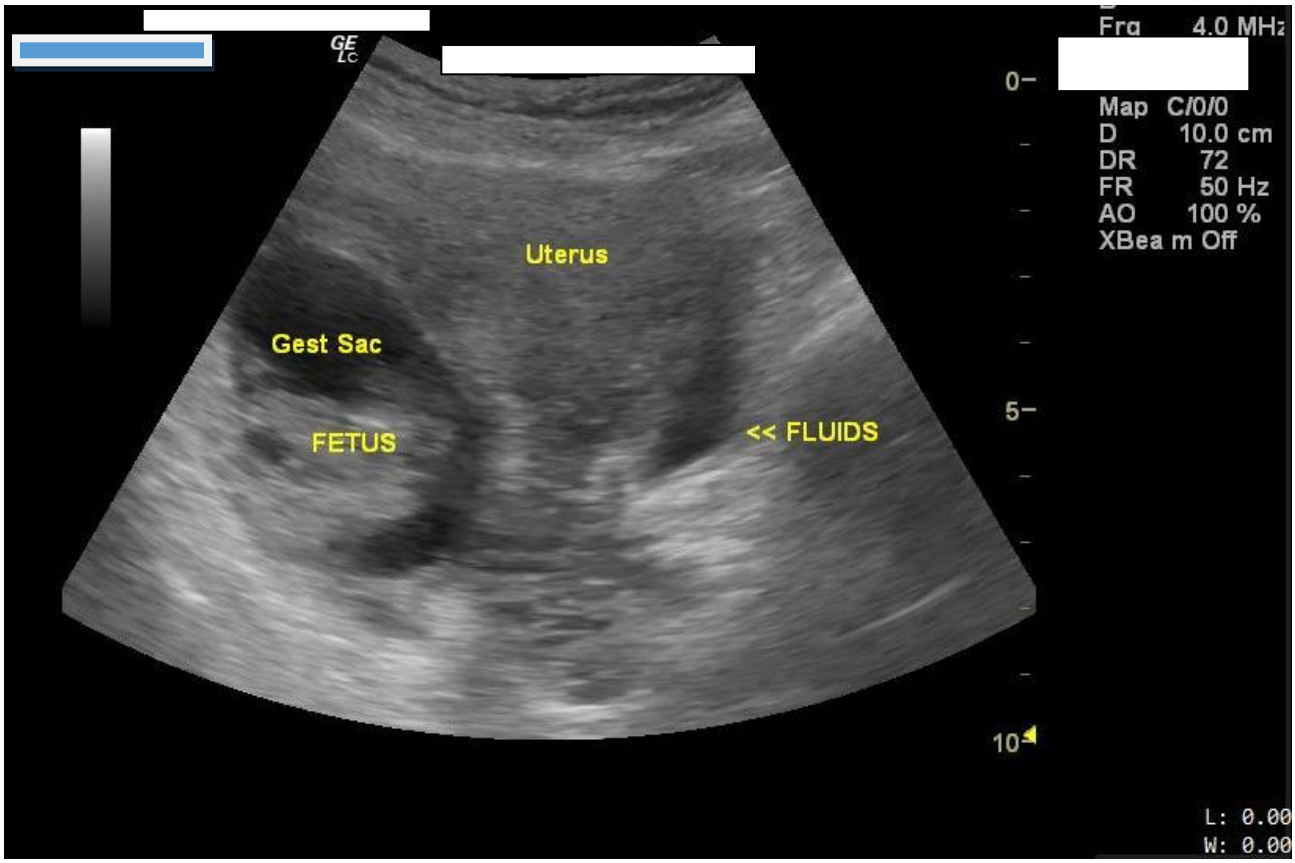

Figure 1: Pelvic ultrasound shows a bulky and empty uterine cavity with right adnexial mass and fluid in the pelvis

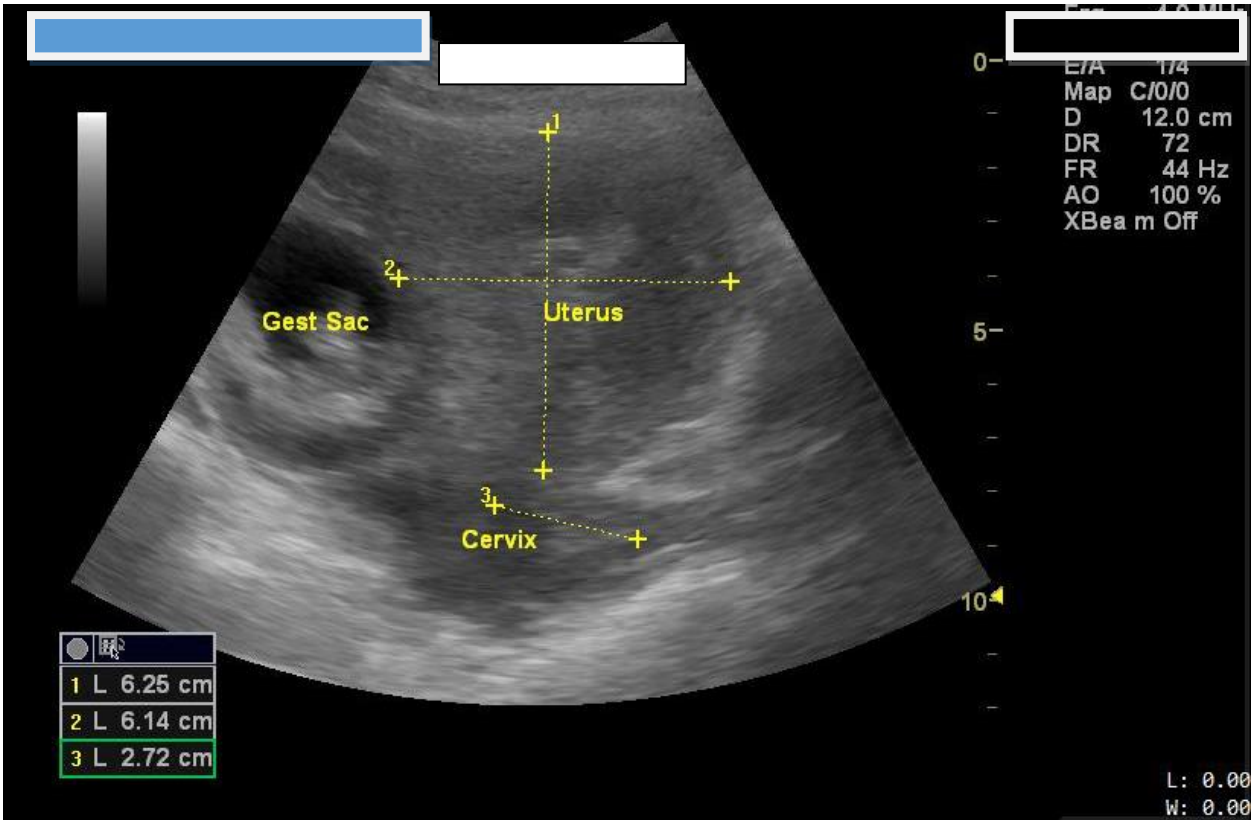

Figure 2: Pelvic ultrasound showing measurement of empty uterus and a right adnexial gestational sac with a live fetus with cardiac activity

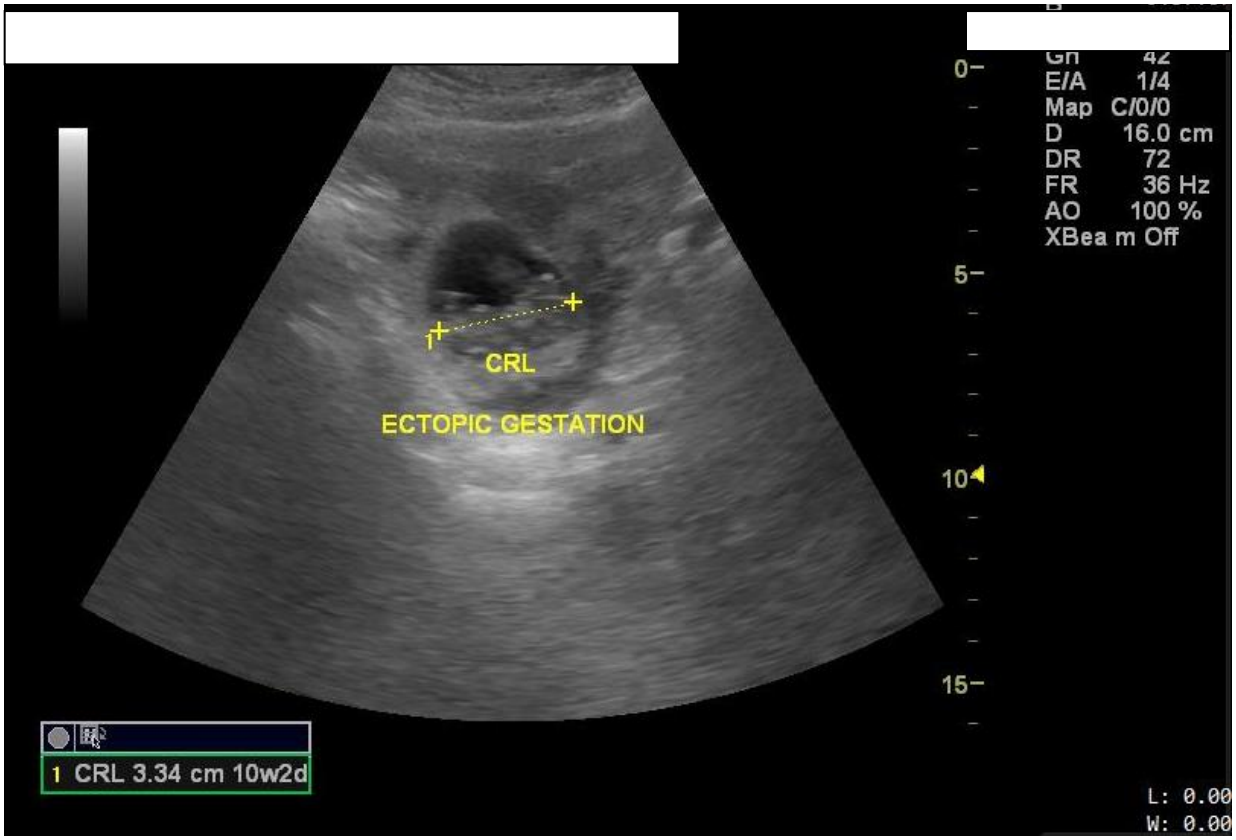

Figure 3: Pelvic ultrasound showing the fetal crown rump length (CRL) measurement of 3.34 cm with gestational age of 10weeks 2days.

DISCUSSION

Ectopic pregnancy is a significant cause of morbidity and mortality in women of reproductive age in developing countries especially sub-saharan region of Africa(Igwegbe et al., 2013; Sivalingam et al., 2011). Ectopic pregnancy is a common life threatening emergency in pregnancy and the leading cause of death in first trimester of pregnancy(Dick et al., 2025; Panti et al., 2012), and about 10% of women admitted with ectopic pregnancy in developing country eventually die from the pregnancy(Jeffers et al., 2024; Sivalingam et al., 2011).

The pathophysiology of ectopic gestation is variable and ultimately determines the location of the gestation. Fallopian tube dysfunction which could be anatomical or functional may result in impaired tubular motility, and ciliary dysfunction causing changes in the tubal environment and embryo arrest within the fallopian tube(Jeffers et al., 2024; Kirk et al., 2013; Shaw et al., 2010; Taran et al., 2015).

The fallopian tube ectopic gestation is the most common, however other ectopic site gestation occurences are rare and found to be associated with higher mortality and morbidity because they are often difficult to diagnose and present late with rupture(Dhanju et al., 2023; Jurkovic & Wilkinson, 2011).

The symptoms of ectopic pregnancy are non specific and often difficult to differentiate from other gynaecological, genitourinary and gastrointestinal symptoms such as salpingitis, miscarriage, adnexial torsion, corpus luteal cyst rupture, urinary tract infection and appendicitis(Farren et al., 2026; Kirk et al., 2013).

The clinical presentation varies, though commonly the triad of abdominal pain, vaginal bleeding and amenorrhea are found in majority of women with ectopic

gestation(Di Gennaro et al., 2022; Kirk et al., 2013; Panti et al., 2012). It is worthy to note that many women with ectopic pregnancy have no identifiable risk factors and those with a risk factor have no ectopic pregnancy and a third of women with ectopic pregnancy have no clinical signs and about ten percent have no symptoms(Farren et al., 2026; Kirk et al., 2013). The index patient presented with lower abdominal pain and amenorrhea.

Diagnosis with transvaginal ultrasound and quantitative serum b-human chorionic gonadotropinn is possible when patient present early (Igwegbe et al., 2013; Lin et al., 2021). Transvaginal ultrasonography is the primary diagnostic tool for clinically stable women with suspected ectopic pregnancy(Dick et al., 2025; Kirk et al., 2013).

The serum b-human chorionic gonadotropin(b-HCG) has a wide variation in its level in patient with ectopic gestation from less than 10mIU/ml to greater than 100,000mIU/ml(Frates et al., 2014), in normal viable pregnancy the HCG level generally doubles within 48hours while ectopic pregnancy is generally associated with a rise of more than 66% or a fall of more than 13% from the baseline level in48hours(Rodgers et al., 2024; Taran et al., 2015).

There are some other findings suggestive of tubal ectopic pregnancy on ultrasound and these include endometrial thickness(figure 2), fluid within the endometrial cavity, free fluid in the pouch of douglas(figure 1), presence of echogenic fluid in the morrison's pouch, inhomogenous or a non cystic adnexial mass and empty extra uterine gestational sac, however a definite diagnosis of tubal ectopic pregnancy can be made when an extrauterine gestational sac containing a yolk sac or an embryo is visualised(Kirk et al., 2013; Lin et al., 2021). The index case was seen with an extrauterine embryo with demonstrable heartbeat (figures 2 and 3)

Diagnostic laparascopy can be used when ultrasound is inconclusive in suspected ectopic pregnancy(Sivalingam et al., 2011)(Bohiltea et al., 2021) while serum progesterone is >50ng/ml in viable pregnancy and endometrial biopsy can also be taken and analysed for the presence or absence of chorionic villi, the absence of chorionic villi in the presence of static b-HCG is suggestive of ectopic pregnancy(Rodgers et al., 2024; Sivalingam et al., 2011).

Magnetic resonance imaging is commonly used to give additional information to ultrasound, it can accurately localise the site of abnormal implantation and can distinguish ruptured and unruptured gestation as well as the hemorrhagic phase(Dick et al., 2025; Kıroğlu et al., 2013).

The management options for ectopic pregnancy depends on the presentation of the patient and these include expectant management, medical treatment, radical surgery(salpingectomy), conservative surgery(salpingostomy), and laparascopy(Di Gennaro et al., 2022; Fernandez et al., 2013; Van Mello et al., 2012).

Expectant management is used when initial b-HCG is <1000IU/L where some of this ectopic gestation resolve spontaneously through regression or tubal abortion without any sequelae to the patient(Mullany et al., 2023; Sivalingam et al., 2011).

Medical therapy has involved the use of different agents such as potassium chloride, uterine artery embolization(Ozen et al., 2022), hyperosmolar glucose, actinomycin-D, prostalglandins, mifepristone and methotrexate which are injected directly into the ectopic sac or systematically via oral, intramuscular or intravenous route (Di Gennaro et al., 2022; Panti et al., 2012), however methotrexate adminstered intramuscularly as a single dose protocol is the most widely used and successful medical therapy for ectopic pregnancy (Taran et al., 2015).

Conservative surgery(salpingotomy) is mainly used for patient with less tubal damage particularly nulliparous women(Igwegbe et al., 2013; Moirano et al., 2023). Surgery is the mode of treatment in cases of ruptured ectopic, haemodynamic instability and heterotropic pregnancy(Taran et al., 2015) and this can be achieved by open laparatomy or laparascopy depending on the surgical expertise of the surgeon, availability of appropriate equipment and clinical state of the patient(Igwegbe et al., 2013). The index case was counselled with the husband on the best line of management

and had radical surgery done. Patient was clinically stable and discharged home after 6days post operation.

The prognosis of tubal gestation as the pregnancy advances can either diminish in size and spontaneously resolve or increase in size and subsequently rupture with consequent maternal morbidity or mortality(Varma & Gupta, 2012). This why early diagosis(Stone et al., 2021) and prompt management is essential as was the case in the index patient

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