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RUPTURED ECTOPIC PREGNANCY IN A WOMAN WITH IMPLANON FAILURE: A CASE REPORT

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Introduction

Implanon, a long acting reversible contraceptive is an effective method of contraception introduced in Europe in 1998 and in the United Kingdom in October 1999.[1,2] More than 4.5 million women have used Implanon worldwide.[3] It is 4-cm long, with a diameter of 2 mm, and is made of an ethylene vinyl acetate copolymer with a core containing 68 mg of etonogestrel (3-keto-desogestrel) for subdermal insertion in the inner aspect of the non-dominant arm under local anesthesia.[3–5] The contraceptive ranks among the most effective contraceptive methods currently available. It acts primarily by suppressing ovulation and also increases cervical mucus viscosity.[1,3,6] Although etonogestrel implants are a highly effective form of long-acting reversible contraception, unintended pregnancies continue to be reported in post-marketing use.[7] We describe a case of ruptured ectopic pregnancy occurring in a patient with an etonogestrel contraceptive implant (Implanon®),with no risk factors for an ectopic pregnancy or contraceptive failure.

Case report

A 38-year-old, Gravida 6 Para 3^{+2}(3 alive) woman, who had an etonogestrel contraceptive implant (Implanon®) inserted 22 months previously, presented at the emergency department of University College Hospital, Ibadan, Nigeria with a complaint of a two-week history of spotting per vaginam and lower abdominal pain of a week duration. She was amenorrhoeic 12 weeks prior to this and

was unsure of her last menstrual period. The patient's past gynecological history was unremarkable, with no identifiable risk factor for ectopic pregnancy like: no history of pelvic inflammatory disease/ previous ectopic pregnancy/ tubal surgery, endometriosis amidst others. She was not using any medication or alternative therapy. Her three deliveries followed normal pregnancies, conceived spontaneously and were all normal had resulted in normal vaginal deliveries in 2016, 2017 and 2021. She earlier had a spontaneous termination of 8 weeks pregnancy in 2019 with no post abortal sequalae and a missed abortion at 11 weeks gestation in 2020 and had manual vacuum aspiration with histology report of normal product of conception. Her last pregnancy resulted in normal vaginal delivery at term in 2021. The implant was correctly placed in her left arm and was palpable. (Fig. 1)

A clinical examination showed a body mass index of 21.2kg/m^2. A haemodynamically stable patient with generalized abdominal tenderness, more intense in the lower abdominal quadrants. There was bilateral cervical motion tenderness and adnexal fullness and tenderness. The pregnancy test done was positive, pelvic ultrasound scan showed a significant collection of fluid in the pelvis, with absent intrauterine gestation and impression of a suspected ruptured ectopic gestation. The adnexae were reported as normal. Her packed cell volume was 30%. In view of these clinical findings, she was counselled for an exploratory laparotomy to which she consented. This was done under general anaesthesia and she had a total left salpingectomy. The intraoperative findings included: 700mls of haemoperitoneum, ruptured ectopic gestation in the infundibular region of the left tube with active bleeding, grossly normal right Fallopian tube and normal ovaries bilaterally. (Fig. 2) The total blood loss was 800mls. She had 2 units of blood transfused. Post transfusion packed cell volume check twelve hours later was 34%.

She was counseled on alternative methods of contraception and further encouraged on the benefits of continued contraceptive use. The patient was discharged on the third post-operative day to the

family planning clinic and to be followed up at gynaecological clinic. Subsequent histological examination confirmed the left tubal pregnancy.

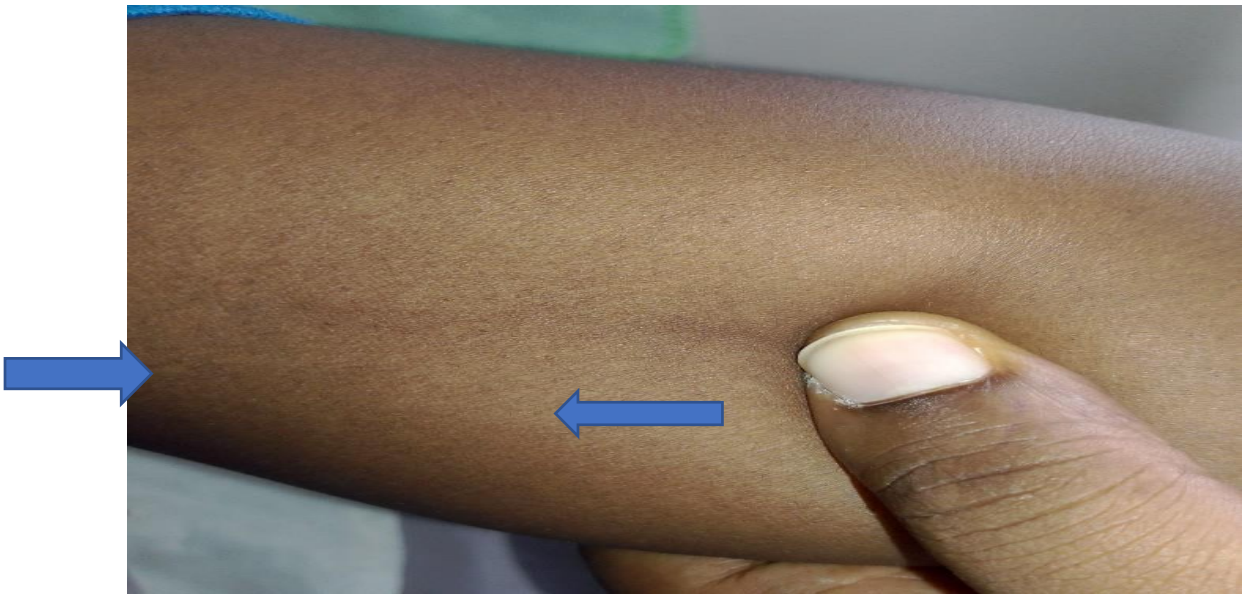
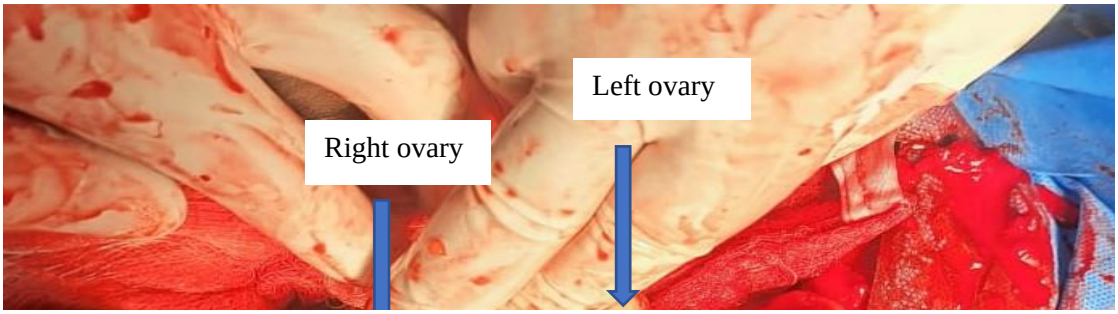


Figure 1. Implanon rightly placed in the left arm



tured ectopic gestation in left tube

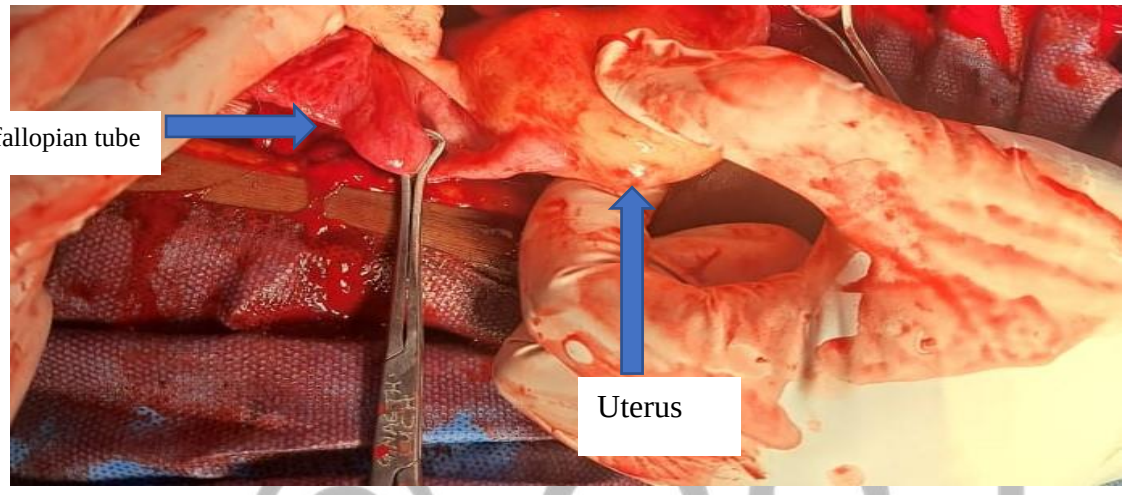


Figure 2-bulky uterus with left ruptured ectopic gestation

Discussion

The contraceptive implant Implanon provides contraceptive coverage for three years. Experience of use of Implanon since inception has shown some unintended pregnancies, although in many of these cases the conceptions had occurred as a result of failures arising from non-insertion, wrong timing of insertion, prior conception, drug interaction with enzyme inducers, implant expulsion, product failure or method of insertion failure and so on, rather than due to primary failure of the contraceptive effect.[5] Implanon achieves its contraceptive effect by inhibition of ovulation and by effecting changes in the cervical mucus which hinders the passage of spermatozoa. The release rate of etonogestrel decreases with time so that by the end of the first year of use the mean concentration of etonogestrel is 200 (range, 150–261) pg/ml and by the end of the third year, it is

156 (range, 111–202) pg/ml. There needs to be a plasma level of etonogestrel of at least 90 pg/ml to suppress ovulation.[1]

The risk of ectopic pregnancy (EP) is decreased in women who use progestogen-only contraceptives when compared to the general population.[8] According to a review of clinical trials and market data, EPs account for 4.7% of all pregnancies diagnosed in women with an etonogestrel implant in situ, with an absolute rate of 2 per 1,000,000 of these implants sold. When limited to confirmed in- treatment pregnancies, the rate of EPs was 11.6%.[4] It has been hypothesized that low levels of progestin seen with some progestin-only contraceptive methods, while failing to inhibit ovulation, may impact tubal motility and increase the risk of a pregnancy being remaining in the fallopian tube.[9] The first reported case of an ectopic pregnancy occurring in a patient with an etonogestrel contraceptive implant (Implanon) was in 2009 by Mansour et al.[10] There was no factor predisposing to a failure of the technique as the implant was in place for less than 2 years and the patient had a normal BMI. There were also no risk factors for an ectopic pregnancy. These findings are similar to those of the index patient as she had a normal BMI, no risk factor for an ectopic pregnancy and she had the implant in situ for about 22 months.

The diagnosis of an unintended pregnancy in a woman using a contraceptive method presents a diagnostic dilemma as symptoms are non-specific, hence clinicians require a high index of suspicion in the management of such cases.

Conclusion

Implanon remains a highly effective form of long-acting reversible contraception. This case report emphasizes that possibilities of ectopic gestation should be entertained. Studies should be carried out as to probable factors that could be responsible for Implanon failure and its use should warrant

additional attention including notification to drug monitoring centers and to the manufacturing company.

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