

## Chronic Disturbed Ectopic Pregnancy in a Woman Using Implanon as a Method of Contraception

**MOHAMED S.A EMARAH (MD), MOHAMED A. EL-NAGGAR (MD),  
and ABEER EL SHABACY (MD)**

*Department of Obstetrics and Gynecology, Benha Teaching Hospital, Egypt<sup>1</sup>*

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**Abstract:** Use of contraception lowers a woman's risk of experiencing an ectopic pregnancy. In the case of method failure however, progestin – only contraceptives may be more likely to result in ectopic pregnancies. The widespread use of antiepileptic drugs for various indications exposes many women of child bearing age to potentially clinically significant drug interactions with hormonal contraception. These interactions include reduced effectiveness of either drug and increased side effects and toxicity of the antiepileptic drug. Intervention by the pharmacist can help prevent contraceptive failure and ensure safe and effective use of antiepileptic drugs through education and increased patient and prescriber awareness. Counseling before insertion of subdermal implants is mandatory and careful history taking is essential, caution should be advised for patients on enzyme inducers with the use of all hormonal contraceptives.

### I. CASE

We report this case female patient 32 years old, P<sub>3+0</sub>, with all deliveries through vaginal route. After puerperium of the last delivery, she is advised to use subdermal implant (Implanon) as a method of contraception. After eight months of amenorrhea since Implanon application she started to suffer from vaginal spotting of dark brownish discharge, where she asked medical advice. General and pelvic examination are unremarkable. Transvaginal ultrasonography revealed an AVF non gravid uterus, with endometrial thickness; 5mm, and absence of any adnexal mass or cyst. She received medical treatment in the form of venotonics and haemostatics.

After three weeks, the patient come back with the same complaint, no stoppage of passage of the brownish bloody vaginal discharge. Asking the patient about her past medical, surgical and contraceptive history. She answered that she is under treatment of epilepsy early in life, underwent appendectomy after an attack of acute abdomen after delivery of the second child, and her method of contraception was the IUCD, as spacing between the previous two deliveries.

General examination revealed, pallor, pulse rate: 98b/m and Bp 90/60mmHg. Abdominal examination revealed mild tenderness all over the abdomen. Serum pregnancy test revealed positive result.  $\beta$ -HCG revealed 11.650 mIU/ml. Transvaginal U/S revealed, tenderness during probing, right adnexal mass, measuring about 3.5 × 4.7 cm, and free fluid in the Douglas of pouch, which suggested the diagnosis of chronic disturbed ectopic pregnancy. Surgical exploration is done, where a lot of intraperitoneal deep altered brownish blood and blood clot's in the peritoneal cavity are removed and the right fallopian tube contained disturbed ectopic pregnancy where right salpingectomy is done.

### II. DISCUSSION

Ectopic pregnancies are an important cause of maternal morbidity and mortality worldwide. In the united states and other developed countries, an estimated 1-2% of all pregnancies are ectopic (I), accounting for 3 – 5% of pregnancy – related deaths<sup>(2)</sup>.

In 2006, the FDA approved Implanon, a single thin, plastic, etonogestrel-releasing rod manufactured by organon USA (a division of Merck). The improved design and composition made Implanon easier and faster to insert and remove than first generation implants. In 2010, the manufacturer replaced Implanon with Nexplanon, which is designed to be radiopaque (visible through x-ray) and has an improved insertion device. It is FDA – approved for use up to three years, although some research indicates effectiveness beyond that period<sup>(3,4)</sup>.

While there has been some concern about hormonal birth control for women who are breast feeding, most findings show that progestin – only methods, such as the implant, do not appear to negatively affect breastfeeding outcomes<sup>(5)</sup>.

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Some of the common side effects include irregular menstrual bleeding, headache, weight gain, acne, and breast pain, which may lead to discontinuation among some users<sup>(6)</sup>. Less common risks associated with implant use include insertion and removal complications, ectopic pregnancy, and ovarian cysts. Although rare, some women who use the implant are at higher risk of developing blood clots, heart attack, or stroke.

With an estimated prevalence of 0.3% - 0.7%, epilepsy is one of the most frequent neurological diseases<sup>(7)</sup>.

Women with epilepsy (WWE), like healthy women, use different kinds of contraceptive methods, i.e. hormonal contraception (HC), intrauterine devices (IUDs), barrier methods, or combination of them. HC includes combined oral contraceptives (COCs), progestin-only pills, intramuscular injections, subdermal implants, skin patches, hormone –releasing IUDs, and vaginal rings. However most women with epilepsy also use antiepileptic drugs (AEDs). Many of these drugs do interact with hormonal contraception which may lead to contraceptive failure or impaired seizure control<sup>(8)</sup>.

Moreover, many women with epilepsy use enzyme – inducing anti-epileptic drugs (AEDs) that may impair the efficacy of highly effective hormonal contraception<sup>(9)</sup>.

However, several studies show that a large proportion of doctors, including neurologists and gynecologists, lack sufficient knowledge about reproductive health issues of women with epilepsy and how these may be affected by anti-epileptic drugs<sup>(10)</sup>. Hence the current treatment guidelines may not be followed<sup>(11)</sup>.

A 2015 survey found that < 7% of women received contraceptive counseling<sup>(12)</sup>. Even when information is provided, many women with epilepsy do not recall the information they were given<sup>(13)</sup>.

In the present case we believe that the concomitant use of enzyme inducers resulted in ovulation and the subsequent ectopic pregnancy. Any drug that induces microsomal enzymes, specifically cytochrome P450, can result in increased clearance of sex hormones thus reducing their contraceptive efficacy. Such drugs include antiepileptics (carbamazepine and phenytoin).

Contraceptive failure may be responsible for up to one in four unplanned pregnancies in women with epilepsy<sup>(14)</sup>.

There have been reports of high failure rates with progesterone implants and enzyme – inducing antiepileptic drugs (EIAEDs), including the etonogestrel (Implanon, nexplanon) and levonorgestrel implants (Norplant, off market) therefore the use of these implants is not recommended in patients taking EIAEDs<sup>(14, 15, 16)</sup>.

Patients with an implant who are started on an EIAED should be advised to use barrier methods, and alternative contraceptive methods should be offered upon implant removal<sup>(16)</sup>.

### **III. CONCLUSION**

Ectopic pregnancy may exceptionally supervene even in the absence of identified risk factors for contraceptive failure.

Also, it is important to perform a pregnancy test in women who suffer from irregular vaginal bleeding while using subdermal implants containing hormonal contraception.

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