

CASE REPORT

Ectopic Pregnancy following Levonorgestrel Postcoital Contraceptive Pill

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ABSTRACT

Aim and background: Emergency contraception (EC) is a boon, as it reduces the incidence of unintended pregnancies. Theoretically, failure of EC can lead to ectopic gestation. However, the causal relation between the failure of EC pill and ectopic pregnancy has not yet been established. The above effect is difficult to establish since all such cases may not get reported.

Case report: We are reporting a case of ectopic pregnancy following levonorgestrel EC pill. This was a multiparous woman who was admitted with complaint of lower abdomen pain and irregular bleeding following use of levonorgestrel EC pill. She was diagnosed as a case of ectopic pregnancy and was operated for the same.

Conclusion: Emergency contraceptive pills should not be used as a regular contraceptive. Doctor should be consulted immediately in case of any menstrual irregularity following its use.

Clinical significance: As only theoretically we can say that EC pill leads to ectopic pregnancy so the word differential diagnosis is written in abstract. Exact explanation was given in the text.

Keywords: Ectopic pregnancy, Emergency contraception, Levonorgestrel, Postcoital pill.

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INTRODUCTION

Emergency contraception (EC) may prevent unintended pregnancy due to contraceptive nonuse, contraceptive mishap, or nonconsensual intercourse. For more than three decades, EC pills are being used to prevent

unintended pregnancy and they can prevent 95% of pregnancies if taken within 24 hours of unprotected intercourse. However, efficacy falls to 48% if intake is delayed up to 48 to 72 hours.¹

Primarily and possibly, the only mechanism of action of levonorgestrel emergency contraception (LNG-EC) is by preventing or delaying the ovulation, but they cannot prevent implantation.² Progesterone containing EC pills also acts by impairing tubal muscular contraction and ciliary motility.³ These pharmacological mechanisms support the epidemiological evidence of increased risk of ectopic pregnancy following failure of EC pill. But, the causal relationship between ectopic pregnancy and EC pill has not been studied and established in the literature.

So, we are reporting this case of ectopic pregnancy following failure of EC pill.

CASE REPORT

A 28-year-old G3P2002 female came to our emergency department at 5 + 3 weeks gestation with complaints of lower abdominal pain and slight bleeding per vaginum since 3 to 4 days. Pain was not associated with fainting attack. Previously, she had delivered two babies vaginally. She was not using any regular contraceptive. In her mid-cycle (day 12), after single unprotected intercourse, she took EC pill (I-pill, 1.5 mg levonorgestrel, Cipla, India) after 62 hours of unprotected intercourse. There was no history of any more unprotected intercourse after the intake of EC. On previous occasions also, patient had self-prescribed EC pill up to 3 days after the unprotected intercourse. I-pill is available over the counter in India.

On examination, patient was hemodynamically stable. Her pulse rate was 96 per minute and blood pressure 110/70 mm Hg. On per abdomen examination, generalized tenderness was present. Per vaginal examination revealed 3 × 2 cm tender left adnexal mass with normal size uterus. Transvaginal sonography showed endometrial thickness of 8 mm without any intrauterine gestational sac. In left adnexa there was a heterogeneous mass of 4 × 3 cm with moderate free fluid and clots in pouch of Douglas. Pregnancy test was positive. So, the diagnosis of ectopic pregnancy was made. Intraoperatively, left isthmic ruptured ectopic pregnancy was found along with 300 mL of hemoperitoneum. Right fallopian tube and both ovaries were healthy looking. Patient underwent left

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salpingectomy with right-sided tubal ligation. Postoperative period was uneventful. Histopathology of left fallopian tube showed villi, edema, and fibrinoid necrosis and absence of any inflammation.

DISCUSSION

Levonorgestrel EC pill prevents pregnancy by varied mechanisms. When administered in the follicular phase, it inhibits follicular development and ovulation. Peri-ovulatory or postovulatory exposure causes premature luteinization of unruptured follicles, but has no effect on fertilization or implantation. High serum progesterone concentration leads to decreased tubal peristalsis, impaired ciliary motility, and ciliary degeneration. These pharmacological effects may last for 5 days.³⁻⁵

Levonorgestrel EC pill failure can result in ectopic pregnancy by aforementioned mechanism. As, in our case, there were no clinical predisposing risk factors, no tubal damage is also seen on histopathology, and exposure to LNG-EC pill could be a cause for ectopic pregnancy. This has been supported by various other case reports. Ghosh et al⁶ reported ectopic pregnancy in a nulliparous woman following intake of LNG-EC pill. Jian and Linan⁷ reported two patients of ectopic pregnancy following LNG-EC pill. Harrison-Woolrych and Woolley⁸ in their review reported 12 cases of ectopic pregnancy following levonorgestrel EC pill.

Cleland et al⁹ in their systematic review found the rate of ectopic pregnancy after the use of EC pill mifepristone and levonorgestrel was 0.6 and 1% respectively, which they reported to be similar to risk of ectopic pregnancy in the general population. However, causal relationship between ectopic pregnancy and EC pill is difficult to establish. Firstly, as EC pills are effective in preventing overall pregnancy, the overall incidence of ectopic pregnancy may be decreased. Secondly, as it is difficult to find out the denominator (all women who consume EC pill), rate of ectopic pregnancy after EC pill failure cannot be calculated. Thirdly, being a nonreportable condition, actual total number of ectopic pregnancies may not be available.

We recommend conformation of site of pregnancy should be done in all pregnancies following EC pill failure.

CONCLUSION

Free availability and accessibility of EC pill help in reducing overall pregnancy rate, unwanted pregnancy, and abortion. But, it should not be used as a regular contraceptive.

CLINICAL SIGNIFICANCE

A registry of ectopic pregnancy following EC pill intake should be established. Efforts must be made to establish causal relationship between ectopic pregnancy and EC pill by conducting ecological studies.

REFERENCES

1. Von Hertzen H, Piaggio G, Ding J, Chen J, Song S, Bártfai G, Ng E, Gemzell-Danielsson K, Oyunbileg A, Wu S, et al. Low dose mifepristone and two regimens of levonorgestrel for emergency contraception: a WHO multicentre randomised trial. *Lancet* 2002 Dec;360(9348):1803-1810.
2. International Federation of Gynecology and Obstetrics. International consortium for emergency contraception. Statement on mechanism of action [Internet] [cited 2014 Apr 27]. Available from: <http://www.figo.org/news/joint-statement-international-consortium-emergency-contraception.2008>
3. Wånggren K, Stavreus-Evers A, Olsson C, Andersson E, Gemzell-Danielsson K. Regulation of muscular contractions in the human fallopian tube through prostaglandins and progestogens. *Hum Reprod* 2008 Oct;23(10):2359-2368.
4. Croxatto HB, Brache V, Pavez M, Cochon L, Forcelledo ML, Alvarez F, Massai R, Faundes A, Salvatierra AM. Pituitary-ovarian function following the standard levonorgestrel emergency contraceptive dose or a single 0.75-mg dose given on the days preceding ovulation. *Contraception* 2004 Dec;70(6):442-450.
5. Mahmood T, Saridogan E, Smutna S, Habib AM, Djahanbakhch O. The effect of ovarian steroids on epithelial ciliary beat frequency in the human fallopian tube. *Hum Reprod* 1998 Nov;13(11):2991-2994.
6. Ghosh B, Dadhwal V, Deka D, Ramesan CK, Mittal S. Ectopic pregnancy following levonorgestrel emergency contraception: a case report. *Contraception* 2009 Feb;79(2):155-157.
7. Jian Z, Linan C. Ectopic gestation following emergency contraception with levonorgestrel. *Eur J Contracept Reprod Health Care* 2003 Dec;8(4):225-228.
8. Harrison-Woolrych M, Woolley J. Progestogen-only emergency contraception and ectopic pregnancy. *J Fam Plann Reprod Health Care* 2003 Jan;29(1):5-6.
9. Cleland K, Raymond E, Trussell J, Cheng L, Zhu H. Ectopic pregnancy and emergency contraceptive pills: a systematic review. *Obstet Gynecol* 2010 Jun;115(6):1263-1266.