Short Communication

Emergency contraception and ectopic pregnancy

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Introduction

Postcoital hormonal contraception, also known as emergency contraception is been used following unprotected sexual intercourse or when a conventional contraceptive method has failed, as a last chance to prevent unintended pregnancies. Hormonal preparations and intra uterine devices are the methods available for this purpose. Emergency contraception (EC) plays an important role in reducing unwanted pregnancies and thus, illegal and unsafe terminations along with the mortality and morbidity associated with them. Emergency contraception is also useful in managing women following sexual assault[1].

Hormonal EC is of two forms and the levonorgestrel only EC is the most potent of those[2]. The other form of hormonal EC is the one described by Yuzpe, where a combination of oestrogens and progestogens, is given, so that the woman receives two doses of 100µg ethinyl oestradiol and 500µg levonorgestrel 12 hours apart. Even though the presence of oestrogen gives rise to side effects, as the Yuzpe regime can be produced by combining several tablets of any combined oral contraceptive, it is still advocated by the health care system[3].

There are concerns of ectopic pregnancy following emergency contraceptive use[4,5,6,7]. The myoelectrical activity of the cilia plays a vital role in tubal propulsion. In general, oestrogens stimulate tubal myoelectrical activity and progesterone inhibits it[8]. Therefore when conception has occurred, the delay in arrival of the fertilized ovum would result in ectopic pregnancy. But according to Yuzpe et al[9], EC is thought to act primarily at the uterine level rather than to inhibit ovulation and therefore, an ectopic pregnancy is more likely when the treatment fails, specially if there is pre-existing tubal damage. Therefore it is advisable to exclude an ectopic pregnancy in any woman presenting with abdominal pain following the use of hormonal EC.

In Sri Lanka EC is an over the counter medication and this easy access to EC has made it a popular form of contraception among Sri Lankan women. This popularity is true for other countries as well[10]. Hormonal EC has to be used in two doses starting as early as possible following unprotected sexual intercourse, followed by a second dose twelve hours apart[10,11]. It is advised to use EC only once within a single cycle[12].

We report two cases of women who had repeatedly taken EC within the index cycle and presented with ectopic pregnancies.

Case 1

A 29 year old mother of two, presented following a period of amenorrhoea of five weeks and two days, with lower abdominal pain of one week duration. She did not have vaginal bleeding. Her urine hCG was positive. She had taken levonorgestrel EC twice during after her last menstrual period. A leaking right tubal ectopic pregnancy was diagnosed and an emergency laparotomy was performed. Histology of the tube confirmed an ectopic pregnancy.

Case 2

A 21-year old undergraduate, married for three months presented with vaginal bleeding and lower abdominal pain of two days duration. She had a period of amenorrhoea of seven weeks and had a positive urine hCG test. A leaking left tubal ectopic pregnancy was diagnosed. She too had taken EC twice after her last menstrual period. Emergency laparotomy with left sided salpingectomy was performed.

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Discussion

Hormonal EC has been used by hundreds of women with success and has prevented a vast majorty of unwanted pregnancies. With their effects on the tubal motility hormonal EC has the potential to give rise to ectopic pregnancies when conception takes place[15]. Therefore in any woman presenting with abdominal pain following hormonal EC use, an ectopic pregnancy must be excluded.

The repeated use of EC appears to increase the risk of ectopic pregnancy. Proper health education of the community is essential to prevent this behaviour and they should be counseled for an appropriate method of contraception.

Since EC is an over the counter drug in Sri Lanka, physicians often do not get the opportunity to counsel the clients who use EC frequently. Therefore inclusion of patient education leaflets within the package would help in this regard. This leaflet should include information on correct use of EC as well as available sources of long term contraceptive methods.

Conclusion

Hormonal EC help reduce a vast number of unwanted pregnancies and thus the morbidity and mortality associated with unsafe abortions following unwanted pregnancies. Incorrect use of hormonal EC appears to be associated with ectopic pregnancy. Clinicians should be vigilant about this possibility and take action to educate women of the correct use of hormonal EC.

References

1. Mein JK, Palmer CM, Shand MC, et al. Management of adult sexual assault. *MJA* 2003; **178**: 226-30.
2. Task force on post ovulatory methods of fertility regulation – Randomized controlled trial of levonorgestrel vs. the Yuzpe regime of combined oral contraceptives for emergency contraception. *Lancet* 1998; **352**: 428-33.
3. Gunasekera PC. Emergency contraception: all women at risk for unintended pregnancy should keep a pack handy. *CMJ* 1999; **44**: 60-62.
4. Pereira PP, Cabar FR, Raiza LCP, et al. Emergency contraception and ectopic pregnancy: Report of 2 cases. *Clinics* 2005; **60**(6): 497-500.
5. Kubba A, Guillebaud J. Case of ectopic pregnancy after postcoital contraception with ethinyloestradiol-levonorgestrel. *BMJ* 1983; **287**: 1343-4.
6. Nielsen CL, Miller L. Ectopic gestation following emergency contraceptive pill administration. *Contraception* 2000; **62** (5): 275-6.
7. Mimouni GS, Pauzner D, Maslovitch S, et al. Ectopic pregnancy following emergency levonorgestrel contraception. *Contraception* 2003; **67**(4): 267-9.
8. Buffet NC, Meduri G, Bouchard P, Spitz IM. Selective progesterone receptor modulators and progesterone antagonists: mechanism of action and clinical applications. *Human Reproduction Update* 2005; **11**(3): 293-307.
9. Yuzpe A, Percival SR, Rademaker AW. A multicentre clinical investigation employing ethinyloestradiol combined with dL-norgestrel as a post-coital contraceptive agent. *Fertil Sreil* 1982; **37**: 508-13.
10. Soon JA, Levine M, Osmond BL, et al. Effects of making emergency contraception available without a physician's prescription: a population-based study. *JAMC* 2005; **172** (7): 878-83.
11. Grimes DA, Raymond EG. Emergency contraception. Ann *Intern Med* 2002; **137**: 180-9.
12. Weismiller D. Emergency contraception. *American Family Physician* 2004; **70**(4): 707-13.
13. Rowlands S, Devalia H, Lawrenson R, et al. Repeated use of hormonal emergency contraception by younger women in the UK. *British Journal of Family Planning* 2000; **26**(3): 138-43.
14. PS Wijesinghe. Emergency contraception. *CMJ* 1999; **44**: 141-2.