

# Implanon: When is the ideal time to insert?

**Helen Kennedy**, MB BCh, BAO, MFFP, *Senior Clinical Medical Officer in Family Planning*; **Mary Murnaghan**, MB BCh, BAO, DGM, DCH, MRCOG, *Specialist Registrar, Obstetrics and Gynaecology, Craigavon Area Hospital, Northern Ireland, UK.*

**Correspondence.** *Helen Kennedy, SCMO in Family Planning, Craigavon Area Hospital Group HSS Trust, 68 Lurgan Road, Portadown, Craigavon, BT63 5QQ. Tel: (028) 38 334444, Fax: (028) 38 350068.*

(Accepted October 23<sup>rd</sup>, 2000)

*The Journal of Family Planning and Reproductive Health Care* 2001; **27**(3): 158

## Abstract

*The single rod implant was introduced to the UK in October 1999. This case illustrates a problem encountered with the timing of its insertion and highlights a possible note of caution.*

## Key message points

- When the progestogen-only pill fails, the relative frequency of ectopics is greater.
- Implanon causes anovulation and is thus indicated where there is a past history of ectopic pregnancy.
- A stricter protocol for the timing of implant insertions may be advisable.

## Presentation and management

A 25-year-old nulliparous woman came to the family planning clinic requesting a subdermal implant. She had previously used Norplant for over 4 years. Her only concern with it was fear of its removal, stories of which she had read in the media, and this precipitated its early removal in August 1999.

In her past medical history she suffered focal migraines and had suspected pelvic inflammatory disease diagnosed and treated in 1995. Until Implanon insertion could be arranged she started a progestogen-only pill at the beginning of November. She had a normal period during the last week in November. She was seen again for the insertion on 20th December 1999, on day 25 of her cycle. She denied missing any pills and a morning sample of urine revealed a negative pregnancy test. The implant was inserted and she was asked to return for a review in 3 weeks time

She continued her progestogen-only pill for several days and abstained from sexual intercourse for 1 week.

At review she stated she was delighted with the device and had had no bleeding until 4 days prior to the appointment, when she developed a light vaginal stain; thus she had had just over 6 weeks amenorrhoea. There was no pain. A urinary Beta HCG was positive. Two days later the implant was removed and a transvaginal ultrasound scan performed. This revealed an endometrium only 6 mm thick, with no evidence of a sac. No fluid was seen in the pouch of Douglas, nor any tubal or ovarian masses.

Beta HCG blood levels returned the next day were > 4000 IU. Since a Beta HCG of >100 IU would normally be accompanied by a visible intra-uterine pregnancy on transvaginal scan, a level of > 4000 IU with no sac is highly suspicious.

She was reviewed this day and on admission there was a mild background left sided pain. At operation 200 ml of blood was found in the pelvis. There was an ectopic pregnancy in the left tube and a left salpingectomy was performed. An uneventful recovery was made.

## Discussion

Implanon is a single rod implant releasing the progestogen etonogestrel. This reaches ovulation-inhibiting levels by 24

hours after insertion, and these are maintained at fairly constant levels throughout the 3 years. Because of ovulation inhibition, one of its indications is its use in women with a history of ectopic pregnancy (EP). It is a highly effective method of contraception, with no pregnancies reported in the trials after 70 000 cycles of use.<sup>1</sup> Since its launch in the UK in October 1999, there have been seven reported pregnancies to date (August 2000) associated with Implanon. Organon has investigated these cases, but causality was not established. It is suspected then, that these pregnancies have been present before Implanon insertion.

The progestogen-only pill (POP) works by: its mucus-thickening effects; its effect on endometrium to inhibit implantation; its variable suppression of ovulation; and its effect on the Fallopian tube to reduce contractility.

The most common cause of EP is tubal damage, which prevents normal embryo transport.<sup>2</sup> A significant cause of this is pelvic inflammatory disease (PID). A review of the studies on the association between EP and progestogen-only contraception<sup>3</sup> concludes that, overall, the progestogen-only methods protect against EP by reducing the chance of pregnancy. However, the degree of protection with the POP may be reduced, partly because it is less effective at preventing ovulation.

The failure rate of the POP varies from 2 per 100 woman-years of use to 0.3 per 100 woman-years of use.<sup>4</sup> This variation is age related i.e. the younger the woman the more likely it is to fail.

This case raises several issues for discussion. It reminds the clinician of the need to be aware of the possibility of pregnancy in any woman, even in one using adequate contraception.

It highlights the risk of EP in a young woman with a history of PID who was using the POP prior to Implanon insertion. With hindsight the implant could have been left in place. The device was removed as it was presumed the pregnancy was intra-uterine and the ultrasound scan was then arranged to establish gestational age.

The case also brings into question the timing of Implanon insertion. The recommended time for insertion while taking the POP is any day.<sup>5</sup> However, with this client the efficacy of the POP was assumed because the pregnancy test was negative, yet she must have already been pregnant.

Should the protocol be revised to recommend implant insertion on days 1-5 of the cycle? Should we review all women routinely 3 weeks after insertion and check a pregnancy test?

## Statement on funding and competing interests

*Funding.* None.

*Competing interests.* None declared.

## References

- 1 Edwards JE, Moore A. Implanon, A Review of clinical studies. *Br J Fam Plann* 1999; **25** (1): 3.
- 2 Weinstein L, Morris MB, Dotters D, et al. Ectopic Pregnancy: a new surgical epidemic. *Obstet Gynecol* 1983; **61**: 1698.
- 3 Fenghi X, Newton J. Progestogen only contraceptives and ectopic pregnancy. *Br J Fam Plann* 1992; **18**: 79-84.
- 4 Vessey MP, Lawless M, Yeates D, et al. Progestogen only contraceptive findings in a large prospective study with special reference to effectiveness. *Br J Fam Plann* 1985; **10**: 117-121.
- 5 Implanon Training Manual, supplied by Organon.