

Miscarriage post-Implanon Insertion: A Case Report

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BACKGROUND

Progestin-only subdermal implants such as Implanon and Nexplanon are proven to be effective long term contraceptive methods. According to product information, the contraceptive mechanism is via ovulation prevention and thickening of cervical mucus to prevent fertilisation. Contraindications for Implanon use – pregnancy or think you might be pregnant, have a thrombosis, have liver disease, have (had) cancer of the genital organs or breast, have unexplained vaginal bleeding, liver tumors or are allergic to the ingredients of the Implanon.

CASE

A 34year old Nullipara presents to hospital with heavy vaginal bleeding. M* is unaware that she was pregnant at time of presentation and had lost approximately 1-1.5 litres of blood. Investigation revealed a beta-hcg level of 190 IU/L. Ultrasound pelvis showed, large, retained product of conception within the uterus.

On further history taking, M reports she had unprotected sexual intercourse on multiple occasions prior to her Implanon insertion approximately 2 weeks prior. M’s last menstrual period was thought to be 3 weeks ago and had not had a urine pregnancy test done prior to implant insertion.

An uneventful surgical suction curettage was done prior to being discharged home. M’s Implanon was left in-situ.



DISCUSSION

1.Did the progestin only implant cause a miscarriage?

According to the Food and Drug Administration of United States, studies on rabbits and rats with Etonorgestrel doses of up to 790 times the human dose; show no evidence of harm to the fetus. Similarly continued use of oral contraception reveal increased risk of early pregnancy loss.

Taking into consideration that in the 1st trimester of pregnancy, the progesterone is largely produced by the corpus luteum until approximately 10 weeks of gestation. A trial of assisted reproductive therapy and premature ovarian failure, showed that 100mg of progesterone was a supraphysiological dose to support pregnancy 6 to 8 weeks after conception. The fetoplacental unit was competent from 10 to 12 weeks’ gestation. When the pregnancy reaches term gestation, progesterone levels range from 100-200 ng/ml and the placenta produces about 250 mg/day.

Further studies have suggested that low levels of progesterone contributed by corpus luteal insufficiency has lead to miscarriages and its recurrence. Treatment of the underlying disorder and use of progestational agents like progesterone/human chorionic gonadotrophin have been found to be effective in women with a history of recurrent miscarriage.

2. If the pregnancy was to continue, should the Implanon be removed?

Yes, as per advice from the manufacturer. No further research or studies have been carried out to further identify the correlation of removing the Implanon once a pregnancy has been established which could be an important research question to address.

CONCLUSION

A pregnancy diagnosed post Implanon insertion is a rare occurrence, of which data is scarce. The increased circulatory progesterone levels with Implanon in-situ, should not biochemically induce a miscarriage. According to the Royal College of Obstetricians and Gynaecologists (RCOG), in contrary, a low level of progesterone is related to the risk of recurrent miscarriages.

Long term studies should be carried out to review the risk of having an Implanon in-situ while maintaining a pregnancy (as no evidence of fetal harm or lactation suppression has been shown in previous data). This could be studied to provide further guidance on management protocols.

REFERENCES

1. *Implanon NXT*. Published by MIMS. May 2022. Accessed from: <https://www.nps.org.au/medicine-finder/implanon-nxt-implant>
- 2.Maddox D.D, Rahman Z. *The Drug Forecast: Etonogestrel (Implanon), another Treatment Option for Contraception*. 3 (6): 337-347. June 2008. Accessed from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2683610/pdf/ptj33_6p337.pdf
3. Kumar P, Magon N. *Nigerian Medical Journal: Hormones in pregnancy*. 53 (4): 179-183. Oct – Dec 2012. Accessed from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3640235/#:~:text=When%20the%20pregnancy%20reaches%20term,the%20placenta%2C%20contrast%20to%20oestrogen>
4. Shah D, Nagarajan N. *Indian journal of Endocrinology and Metabolism: Luteal insufficiency in first trimester*. 17(1): 44-49. Jan-Feb 2013. Accessed from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3659905/>



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