A young woman who has a contraceptive implant and vaginal bleeding

Commentary by:
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A 21-year-old woman with a contraceptive implant inserted two years ago is experiencing brown vaginal bleeding. What could be causing the bleeding, are any investigations required, how should the bleeding be controlled and should the implant be replaced?

Case scenario

Marta, 21 years old, had a contraceptive implant inserted two years and four months ago. She has had intermittent light spotting for the past year and has noted brown vaginal bleeding over the past few weeks, occurring on most days. She is using an implant for contraception as she was advised against using the combined oral contraceptive pill because of her history of migraine with aura. Marta has no other symptoms, she is not overweight and she is not currently sexually active after breaking up with her boyfriend three months ago. Recent cervical and chlamydia screening tests have had normal and negative results respectively.

A pregnancy test is negative. Marta is keen to continue with the implant as it has suited her well until now.

- What are the possible causes of Marta's bleeding and what investigations, if any, do you need to consider?
- Would you advise Marta to remove and replace the implant?
- Are there any management strategies to control Marta's bleeding and prolong the use of the current implant given her medical contraindications to oestrogen?
- Is it safe to trial a hormone replacement dose of oestrogen to see if this controls Marta's bleeding?
- If this were an obese patient, would her weight be an indication that the implant be replaced before the end of its normal effective life?

Commentary

Management of troublesome bleeding with long-acting reversible contraception

Management of troublesome bleeding with the progestogen (etonogestrel)-containing contraceptive implant is a clinical situation that often confronts general practitioners.

The contraceptive implant is easy to insert, safe for most women and lasts for three years, and is the most effective reversible method of contraception. An estimated one in five women, however, has an implant removed within a year of its implantation because of unacceptable bleeding. Family Planning Alliance Australia (FPAA) has developed a two-page management guide, *Guidance for Management of Troublesome Vaginal Bleeding with Progestogen-Only Long-Acting Reversible Contraception (LARC)* to help healthcare professionals manage troublesome bleeding associated with LARC methods (Box).

Occasionally women who have previously had amenorrhoea or an acceptable bleeding pattern with the contraceptive implant start to get bleeding in the final (third) year of its use. There is evidence that this change of bleeding pattern may relate to ovulation in the third year of use; however, there is no evidence of higher failure rates in the final year as the implant continues to work due to other mechanisms including thickening of the cervical mucus.[1] If a change in bleeding pattern occurs, it is important to rule out other causes rather than just assuming the implant is responsible for the bleeding.

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CONTRACEPTIVE IMPLANTS: USEFUL RESOURCES FOR GPS AND PATIENTS

For GPs

- ***Progestogen-Only Implants***
  This guide from the UK Faculty of Sexual and Reproductive Healthcare Clinical Effectiveness Unit provides evidence-based recommendations and good practice points on the use of the progestogen-only implant (February 2014)
  – www.fsrh.org/documents/cec-ceu-guidance-implants-feb-2014
- ***Problematic Bleeding with Hormonal Contraception***
  This guide from the UK Faculty of Sexual and Reproductive Healthcare Clinical Effectiveness Unit brings together evidence and expert opinion on the management of problematic bleeding in women using hormonal contraception (July 2015)
  – www.fsrh.org/documents/ceuguidanceproblematicbleedinghormonalcontraception
- ***Guidance for Management of Troublesome Vaginal Bleeding with Progestogen-Only Long-Acting Reversible Contraception (LARC)***
  A two-page management guide from Family Planning Alliance Australia
  – www.fpnsw.org.au/sites/default/files/assets/fpaa_guidance_for_bleeding_on_progestogen_only_larc.pdf

For patients

- ***Contraceptive Implant (Implanon NXT®)*** factsheet
  Health information for patients from Family Planning NSW
  – www.fpnsw.org.au/sites/default/files/assets/CONTRACEPTIVE%20IMPLANT.pdf

Investigations for abnormal bleeding

As stated, Marta is otherwise asymptomatic and has had negative pregnancy and chlamydia-screening tests and a normal cervical screening test, during which she would have had her cervix visualised and it can be assumed no cervical polyp was seen. As a 21-year-old woman, having an ultrasound investigation is unlikely to change Marta's management. However, if she were older (over 45 years) or had risk factors for endometrial cancer (e.g. obesity, polycystic ovarian syndrome), a good quality transvaginal ultrasound and possibly an endometrial biopsy would be recommended to look for endometrial pathology.[2]

As all of Marta's investigations are normal, she can be reassured her that the bleeding is most likely to be due to the implant. For some women this reassurance is all that they require, but for others the bleeding can have a significant impact on their quality of life, including their sex life as many women prefer not to have sex while bleeding.

Marta does not need to have the implant removed early as there is no evidence of decreased efficacy. However, and anecdotally, early replacement of the implant does seem to result in resolution of the bleeding for some women who are in the third year of use.

Medical management of irregular bleeding with use of contraceptive implant

First-line management

- **Combined hormonal contraception.** There is evidence that using the combined oral contraceptive pill (or vaginal ring) continuously (i.e. skipping the nonhormonal pills or ring-free break) for three months will control irregular bleeding experienced by women using the contraceptive implant.[3] Expert opinion supports the safety of use of the pill or ring to control bleeding beyond three months. These methods can potentially be used concurrently for the duration of implant use.
- **NSAIDs.** A five-day course of an NSAID such as mefenamic acid 500 mg two to three times daily has been shown to shorten the duration of a bleeding episode and decrease blood loss in women using the contraceptive implant who cannot tolerate or who have a contraindication to the combined pill or ring.[4] This regimen can be repeated as often as necessary, as the irregular bleeding is likely to recur.
- **Tranexamic acid.** A five-day course of tranexamic acid 500 mg twice daily, particularly if bleeding is heavy, reduces the duration of bleeding episodes.[3] This regimen can be repeated as often as necessary, as the irregular bleeding is likely to recur.

Marta has a history of migraine with aura so combined hormonal contraception is contraindicated. Although migraine with aura is not an absolute contraindication for menopausal hormone therapy, using a 'hormone replacement dose' of oestrogen is not recommended. There is no evidence of benefit and the implant is not recommended for endometrial protection with menopausal hormone therapy.

Marta, therefore, can be advised to try a short-course of an NSAID or, possibly, tranexamic acid.

Second-line management

- **Norethisterone.** Expert opinion in the UK suggests that high-dose progestogens such as norethisterone 5 mg three times daily may be useful for the short-term control of troublesome bleeding; long-term use is not recommended. However, women with risk factors for venous thromboembolism or stroke should not use norethisterone because of its partial conversion to ethinyloestradiol.
- **Levonorgestrel progestogen-only pill (POP).** There is limited information that the levonorgestrel POP reduces the duration of troublesome bleeding episodes.[5] It can be given as a dose of two 30-µg POPs taken together for 20 days. If successful, the 20-day course can be repeated as required.

Because of her history of migraine with aura, Marta may be at increased risk of

stroke so high-dose norethisterone should be avoided.

Obesity and the contraceptive implant

The UK Royal College of Obstetricians and Gynaecologists' Faculty of Sexual and Reproductive Healthcare (FSRH) guidance on progestogen-only implants states that women with a BMI greater than 30 kg/m^2 can use a progestogen-only implant without restriction and without a reduction in contraceptive efficacy for the duration of the licensed use.[6]

There are very few clinical research studies on the contraceptive implant that include obese women. It appears that serum levels may be lower in obese women but still sufficient to suppress ovulation. The FSRH guidance states:[6]

- 'No increased risk of pregnancy has been demonstrated in women weighing up to 149 kg. However, because of the inverse relationship between weight and serum etonogestrel levels, a reduction in the duration of contraceptive efficacy cannot be completely excluded'.
- 'Women using the progestogen-only implant should be informed, where relevant, that the manufacturer states that earlier replacement can be considered in "heavier" women but that there is no direct evidence to support earlier replacement.'

A recent small study has shown that increasing BMI has no effect on serum etonogestrel levels over three years of implant use.[7] These results are supportive of the implant being an effective option for women of all BMIs.

Conclusion

The contraceptive implant can be a very effective and acceptable method of contraception for women of all ages. It is important that women are advised at the time of implant insertion that they may experience irregular bleeding and that if this occurs there are strategies that can be used to manage it. Although medications used to control troublesome bleeding have only been shown to have an effect in the short term, women can be advised on repeat use to self-manage their symptoms. Troublesome bleeding that commences in the third year of implant use may warrant trialling early replacement once other causes have been excluded. MT

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COMPETING INTERESTS: Dr Menzies: None. Dr Stewart has reported that Family Planning NSW receives untied sponsorship for its educational courses from MSD Australia, the manufacturers of Implanon NXT. Dr Bateson has provided expert advice for MSD as part of her role as Medical Director of Family Planning NSW but has never received personal remuneration for these services.