

Implanon® and alopecia

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Case history

A 30-year-old woman attended a family planning clinic asking for a contraceptive implant. She had been taking the combined pill (Microgynon 30®) for some years, and a friend had recommended Implanon® as an alternative. She was a fit, healthy non-smoker, with a body mass index of 24, and no contraindications to use of Implanon.

Implanon was fitted in December 2004 on Day 10 of her pill cycle. Insertion was straightforward and she attended for a check-up 6 weeks later. The insertion site was well healed. She was experiencing some irregular bleeding. Her cervical smear was due so this was taken and subsequently reported as negative.

She then returned to the clinic, approximately 4 months after fitting, complaining of a patch of scalp hair loss. On examination, a patch of hair loss at the left vertex was noted. This measured approximately 5 cm in diameter. The scalp appeared healthy with no evidence of any underlying skin disease. There was no previous history of hair loss, or any other skin or scalp abnormality, and no family history of note.

This event was reported to Implanon's manufacturer, Organon, as an adverse event. They informed us that alopecia has been recognised as a possible side effect of Implanon and that the implant should be removed.

The Implanon was removed 3 weeks later and new hair has started to re-grow at the site. Subsequent investigations including a treponema screen, full blood count and serum ferritin, a standard hormone profile including testosterone, sex hormone binding globulin and dehydroepiandrosterone sulphate, prolactin and basic urea and electrolytes were all reported as being within the normal range.

Discussion

Alopecia may be classified into two main subgroups: permanent (e.g. male-pattern baldness) or non-permanent (e.g. androgenic alopecia, telogen effluvium, alopecia areata and traction alopecia).¹ In the first group hair loss is permanent, but in the latter group re-growth of hair may take place.

Alopecia is specified as an undesirable effect of Implanon in the Summary of Product Characteristics.² It is recognised by Organon to occur in between 1 in 10 to 1 in 100 users, and as such falls into the category of a 'common' side effect.

The overall prevalence of these types of alopecia has a lifetime estimate of 1.7%.³ However, alopecia areata *per se*

has been quoted to have a prevalence of 1 in 100.⁴ Many sufferers will find that hair re-grows at the site, and that they never experience another episode of hair loss. However, for approximately 20% of sufferers, further hair loss will ensue. If 1 in 100 is indeed the background prevalence then perhaps the association between alopecia areata and use of Implanon is casual and not causal?

A MEDLINE search, from 1985 to the present date, did not identify any papers looking directly at Implanon (or the progestogen, etonogestrel) and alopecia.

Hair growth, in general, is known to be affected by hormones. For example, hair growth increases in pregnancy as oestrogen directly prolongs the anagen (growth) phase of the hair within the hair shaft. Postnatally, however, hair loss is common, possibly due to profound falls in oestrogen and progestogen levels.⁵

Alopecia areata, however, is a quite specific condition involving an isolated patch (or patches) of hair loss, which is *not* thought to be under hormonal control. It is considered to be inherited in a polygenic fashion, triggered by various factors including life stress, and result directly from the work of autoimmune mediators.⁶

Furthermore, anti-androgenic progestogens such as cyproterone acetate have been shown, in conjunction with standard oestrogen doses (Dianette®), to improve generalised androgenic alopecia as seen in polycystic ovary syndrome.⁷ Etonogestrel, the progestogen in Implanon, has a lower affinity for androgen receptors than other progestogens (such as levonorgestrel)⁸ and it could therefore be postulated to be unlikely to negatively affect hair growth.

It is therefore quite possible that this case of alopecia areata is not directly due to the use of Implanon, and is a condition that the patient might have developed anyway.

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Competing interests. Dr Lee has worked for Schering, Organon, Wyeth, Novonordisk and other pharmaceutical companies in an educational capacity.

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