

Patient	Age (years)	Pill used before without development of hidradenitis suppurativa	Pill used at onset and during exacerbations of hidradenitis suppurativa	Duration from use of pill to development of hidradenitis suppurativa (months)	Part of body affected	Treatment	Pill used after development but without recurrence of hidradenitis suppurativa
1	26		Microgynon-30	2	Axillae Anogenital	Two operations Antibiotics	
2	27	Brevinor	Ovranette	8	Right groin	One operation Antibiotics	
3	39	Ovulen-50	Microgynon-30, Micronor	2	Axillae Anogenital	Antibiotics	
4	18		Microgynon-30	1	Right breast Right groin	Antibiotics	Logynon
5	21		Ovranette	24	Axillae	Antibiotics	Logynon
6	17		Microgynon-30	2	Axillae		
7	23		®Conova-30, Eugynon-30, Microgynon	1	Anogenital	Antibiotics	Marvelon Logynon

Microgynon and Ovranette—ethinyloestradiol 30 µg-levonorgestrel 150 µg; Brevinor—ethinyloestradiol 35 µg-norethisterone 500 µg; Ovulen-50—ethinyloestradiol 50 µg-ethynodiol 1 mg; Micronor—norethisterone 350 µg; Logynon—ethinyloestradiol 30/40/30 µg-levonorgestrel 50/75/125 µg; Marvelon—ethinyloestradiol 30 µg-desogestrel 150 µg; Conova-30—ethinyloestradiol 30 µg-ethynodiol 2 mg; Eugynon-30—ethinyloestradiol 30 µg-levonorgestrel 250 µg.

of severe hidradenitis suppurativa occurred, which required antibiotics despite a change of pill to Microgynon-30 (ethinyloestradiol 30 µg-levonorgestrel 150 µg) in June 1986. In June 1987 Microgynon-30 was changed to Logynon (ethinyloestradiol 30/40/30 µg-levonorgestrel 50/75/125 µg) and her symptoms did not recur.

Comment

In most cases reported, a strong temporal relation was apparent between the initiation of treatment with certain combined oral contraceptives (see table) and the onset of hidradenitis suppurativa. Complete resolution occurred in two patients with recurrent disease in whom oral contraceptives were discontinued. A further three patients benefited from a change to a combined pill containing a higher oestrogen:progesterone ratio. One patient relapsed within one month of changing to Marvelon (ethinyloestradiol 30 µg-desogestrel 150 µg), a pill previously recommended for these patients as desogestrel is thought to have few or no androgenic properties.² The relapse may, however, have been a continued metabolic consequence of her taking Microgynon-30 before. The other patient who remained on a progesterone only pill continued to have relapses of hidradenitis suppurativa.

Although acne has been reported in women taking oral contraceptives,³ no association has been reported with hidradenitis suppurativa.⁴ Furthermore, since 1955 the Committee on Safety of Medicines has received only one report of abscess formation and a further report of pustular rash associated with the use of oral contraceptives. As in acne vulgaris, androgens appear to be a prerequisite for the development of hidradenitis suppurativa, and raised testosterone concentrations have been found recently in these women.⁴ Oestrogens benefit patients with acne and possibly hidradenitis suppurativa by increasing the concentration of circulating sex hormone binding globulin. Androgens are bound more avidly than oestrogen to this protein and are therefore less freely available to the

tissues. Possibly the progestogens in these contraceptives, all 19-nortestosterone derivatives, cause hidradenitis suppurativa because of their androgenic properties, though it seems that this effect can be overcome by preparations containing a higher oestrogen:progesterone ratio such as found in the sequential pill (Logynon). The degree of androgenicity of the progestogens may also differ, levonorgestrel and ethynodiol being more androgenic than norethisterone, and newer preparations, such as desogestrel and gestodene, being alleged to have minimal or no androgenic properties.² This would explain the lack of correlation of hidradenitis suppurativa with many other combined contraceptives and the benefit shown in three of our patients when changed to a sequential combined pill with a higher oestrogen:progesterone ratio. We suggest that treatment in these cases should be an alternative form of contraception or, if an oral contraceptive is indicated, one that has more oestrogenic properties.

1 Hurley HJ Jr. Apocrine glands. In: Fitzpatrick KB, Eisen AZ, Wolf FK, Freedberg IM, Austen KF, eds. *Dermatology in general medicine*. New York: McGraw Hill, 1979:480-4.

2 Mortimer PS. Hidradenitis suppurativa. *Dermatology in General Practice* 1987;5:30-3.

3 Cunliffe WJ, Cotterill JA. Treatment by reduction in sebum production. In: Cunliffe WJ, Cotterill JA, eds. *Acnes: clinical features, pathogenesis and treatment*. London: WB Saunders, 1975:224-39.

4 Mortimer PS, Dawber RPR, Gales MA, Moore RA. Mediation of hidradenitis suppurativa by androgens. *Br Med J* 1986;292:245-8.

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Correction

Aluminium accumulation and immunosuppressive effect in recipients of kidney transplants

An authors' error occurred in this paper by Dr K P Nordal and others (17 December, p 1581). "Haplotype" was omitted from the first sentence of the Patients and methods section. The sentence should have read, "We studied 94 adult patients, who gave their informed consent to participate and received a kidney graft from a cadaver (n=66) or a living donor haplotype identical for histocompatibility antigens (n=28) during one year (1983-4)."