

Oral Contraceptives and Acne

Combined Oral Contraceptives (COC's) appear to have significant benefit in the management of acne. A recent meta-analysis found COC's to be equivalent to systemic antibiotics for management of acne after 6 months use¹.

In a Cochrane review, 'Combined oral contraceptives for the treatment of acne²', in placebo-controlled trials there was a reduction in acne lesion counts, severity grades and self-assessed acne when compared to placebo. It concluded that 'the six COCs evaluated in placebo-controlled trials are effective in reducing inflammatory and non-inflammatory facial acne lesions. Few important and consistent differences were found between COC types in their effectiveness for treating acne'.

One oral contraceptive that is frequently used as an oral contraceptive with the additional benefit in acne is Yasmin®. Yasmin® contains ethinylestradiol 30 micrograms and drospirenone 3mg in each tablet. In the Cumbria Traffic Light Classification, Yasmin® is classified as a **BLACK** drug. According to the SMC review 'It has been shown to have similar contraceptive effectiveness to other combined oral contraceptives in routine use, with no significant differences in adverse event profile'.

Although the risk of venous thromboembolism (VTE) with oral contraceptives is small, the MHRA has identified that products that contain levonorgestrel, norgestimate or norethisterone are associated with the lowest risk of VTE³. Products containing drospirenone, such as Yasmin®, may have up to twice the level of risk.

Progestogen (with ethinylestradiol unless stated)	Estimated incidence per 10,000 women per year of use	Formulary brands	Other brands
Non-pregnant, not using COC	2		
Levonorgestrel		Rigevidon®	Levest® Logynon® preps Microgynon® preps Ovranette® TriRegol®
Norgestimate			Cilest®
Norethisterone	5-7		BiNovum® Brevinor® Loestrin® preps Norimin® Ovysmen® Synphase® TriNovum®
Norethisterone + mestranol			Norinyl-1®
Gestodene		Millinette® preps	Femodene® preps Femodette® Katya® Sunya® Triadene®
Desogestrel	9-12	Gedarel® preps	Marvelon® Mercilon®
Drospirenone			Yasmin®
Dienogest + estradiol	Not known, insufficient data		Qlaira®
Nomegestrol acetate + estradiol			Zoely®

More information on venous thromboembolism risk and hormonal contraception is available from the Faculty of Sexual & Reproductive Healthcare website⁴.

Note that norgestimate is a newer progestogen in terms of availability, but it is partly metabolised to levonorgestrel.

In addition, a case-control study has been published in the last few days examining the risk of VTE with COCs⁵. There was a similar conclusion that newer progestogens were associated with a greater risk. In addition, cyproterone was included and had a risk comparable to the newer progestogens.

	Extra cases per 10,000 treated per year (95% CI)	
	All ages (15-49 years)	Age 25-49 years
Levonorgestrel	6 (5 – 7)	7 (6 – 8)
Norgestimate	6 (5 – 8)	7 (5 - 9)
Norethisterone	7 (5 – 9)	9 (6 – 11)
Desogestrel	14 (11 - 17)	17 (13 - 31)
Gestodene	11 (8 – 14)	13 (10 – 18)
Drospirenone	13 (10 - 17)	17 (13 – 23)
Cyproterone	11 (11 - 17)	17 (12 – 22)

Conclusion

As a group, COC's have been shown to improve acne but there is too little information available to determine whether there is any benefit of one brand over another.

The benefits of using Yasmin® over other OCs for treating acne are not proven. Yasmin® contains drospirenone, a progestogen associated with a slightly higher incidence of VTE when compared with other progestogens. It is logical to use oral contraceptives with a lowest risk of VTE where possible.

Note

Rigevidon® (ethinylloestradiol 30 micrograms + levonorgestrel 150 micrograms) is on the LfJ, costing £8 a year, compared with Yasmin® which costs £64 a year. The LfJ actually recommends a desogestrel-containing preparation such as Gedarel® (£21 per year) for acne-susceptible patients.

Rigevidon® is identical to Ovranelle® and Microgynon 30®, but is significantly less expensive.

TS, KM/May 2015

¹ Koo EB, Petersen TD, Kimball AB. Meta-analysis comparing efficacy of antibiotics versus oral contraceptives in acne vulgaris. J Am Acad Dermatol. 2014 Sep;71(3):450-9. doi: 10.1016/j.jaad.2014.03.051. Epub 2014 May 28.

² Arowojolu AO, Gallo MF, Lopez LM, Grimes DA. Combined oral contraceptive pills for treatment of acne. Cochrane Database of Systematic Reviews 2012, Issue 7. Art. No.: CD004425. DOI: 10.1002/14651858.CD004425.pub6. Available at: <http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD004425.pub6/abstract>

³ BNF 68, 2014

⁴ <http://www.fsrh.org/pdfs/FSRHStatementVTEandHormonalContraception.pdf>

⁵ Vinogradova Y, Coupland C, Hippisley-Cox J. Use of combined oral contraceptives and risk of venous thromboembolism: nested case-control studies using the QResearch and CPRD databases. BMJ 2015 <http://www.bmj.com/content/350/bmj.h2135>