

# Effects of an Oral Contraceptive Combination With or Without Androgen on Mammary Tissues: A Study in Rats

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## **Abstract**

*Objectives: Oral contraceptive (OC) therapy has long been known to produce hypoandrogenemia. However, androgens are not part of any OC therapy available to women. This project was designed to evaluate the effects of low-estradiol containing OC, with or without methyltestosterone (MT), on cell proliferation and progesterone receptor (PgR) expression in mammary gland epithelia of virgin female rats.*

*Methods: Sixty rats were divided into four groups. One group received OCs, whereas a second group received OC plus MT. A third group of rats was treated with an antiandrogen to mimic the hypoandrogenemic effects caused by OC therapy. All treated groups were compared with age-matched untreated controls.*

*Results: After 15 weeks of treatment, no inflammatory, precancerous, or cancerous lesions were observed in any treatment group. OC plus MT therapy caused significant suppression of*

*epithelial proliferation, a reduction in the number of proliferating cell nuclear antigen-labeled cells, and an increase in the number of PgR-labeled cells.*

*Conclusions: Our results suggest that a medication containing an estrogen-progestin-androgen combination has antiproliferative effects in mammary glands of experimental animals that could prove to have breast-protective potential in women.*

Key Words: Mammary glands • oral contraceptives • androgens • cell proliferation • progesterone receptor