



-Doxycycline in the Treatment of Bleeding with DMPA: A Double Blinded Randomized Controlled Trial

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Abstract:

Background Increased matrix metalloproteinase (MMP) activity in the endometrium is a predisposing factor for bleeding with depot medroxy progesterone acetate (DMPA) injectable contraception. Doxycycline (DOX) has been proven in vitro to inhibit MMP-mediated degradation of stromal matrix. The current study examined the effect of DOX compared to placebo in treating a current bleeding episode during DMPA use. **Study Design** A double-blinded randomized controlled trial was conducted in Assiut, Egypt. DMPA users with current bleeding episode were counseled to participate. Women who agreed to participate were randomly assigned to receive 100 mg DOX twice daily for 5 days (34 patients) or an identical placebo (34 patients). All participants were asked to report bleeding and spotting days in a menstrual diary. All participants were followed for 3 months after treatment. This trial was registered (NCT01254799). **Results** The relative risk to stop a bleeding episode within 10 days of starting treatment was 0.88 (confidence interval 0.64-1.21) in the treatment group compared to the control. DOX treatment caused no significant difference compared to placebo in the number of bleeding and/or spotting days in the 3 months following the treatment. **Conclusion** Doxycycline as MMP inhibitor is not effective in stopping a current attack of bleeding with DMPA. It also does not improve the bleeding characteristics of women for the subsequent 3 months following the treatment.

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