

Antibiotic interference with oral contraceptives

ADA COUNCIL ON SCIENTIFIC AFFAIRS

In 1991, dental practitioners were advised to discuss with all women of childbearing age a possible reduction in efficiency of oral steroid contraceptives during antibiotic therapy, and that these patients should use additional forms of contraception during short-term antibiotic use.¹ Similarly, after a comprehensive review of the literature, the American Medical Association concluded that women should be informed of the possible interaction, because such an interaction could not be completely discounted and could not be predicted.² The associations' conclusions were based largely on a documented interaction between rifampin (an antibiotic used to treat tuberculosis and staphylococcal infections) and oral contraceptives, anecdotal case reports suggesting an oral contraceptive failure associated with other antibiotics, and a plausible hypothesis of a mechanism of action.

It may be prudent for women to use a backup contraceptive method throughout antibiotic therapy.

Numerous studies (cited in Hersh³) have demonstrated that the failure rate of oral contraceptives (between 1 and 3 percent) is similar to the failure rate of oral contraceptives used concurrently with antibiotics. These facts underscore the difficulty in establishing whether interference indeed occurs. Although animal studies support an interaction based on the enterohepatic recirculation theory, specific studies have failed to document the same interference in humans. With the exception of rifampin (which interferes by another

mechanism, stimulating liver enzymes) no studies have reported altered levels of ethinyl estradiol (the principal active ingredient in oral steroid contraceptives) or an increased risk of conception in women taking commonly used antibiotics. A recently published report, however, identified some antibiotics commonly used in dentistry—such as amoxicillin, ampicillin, metronidazole and tetracycline—as drugs that may decrease the effectiveness of oral contraceptives.³ The author's conclusion was that it may be prudent for women to use a backup contraceptive method throughout antibiotic therapy and for one full week after completion or early cessation of the antibiotic course.⁴ Additionally, a recent review in JADA concluded that although the interaction, by definition, cannot be classified as established, probable or even suspected, the philosophy of recommending the use of additional forms of birth control for all oral contraceptive users receiving antibiotic therapy, as a possible protection of a few of them from unwanted pregnancies, still seems justified.³

Therefore, it is the opinion of the ADA Council on Scientific Affairs that, considering the possible consequences of an unwanted pregnancy, when prescribing antibiotics to a patient using oral contraceptives, the dentist should do the following:

- advise the patient of the potential risk of the antibiotic's reducing the effectiveness of the oral contraceptive;
- recommend that the patient discuss with her physician the use of an additional nonhormonal means of contraception;
- advise the patient to maintain compliance with oral contraceptives when concurrently using antibiotics. ■

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1. American Dental Association Health Foundation Research Institute, Department of Toxicology. Antibiotic interference with oral contraceptives. JADA 1991;122:79.

2. American Medical Association Council on Scientific Affairs. Drug interactions between antibiotics and oral contraceptives. Available at: "www.ama-assn.org/ama/pub/article/2036-2927.html". Accessed May 24, 2002.

3. Hersh EV. Adverse drug reactions in dental practice: interactions involving antibiotics. JADA 1999;130:236-51.

4. Cerel-Suhl SL, Yeager BF. Update on oral contraceptive pills. Am Fam Physician 1999;60:2073-84.