**Review: Oral and intravaginal agents are equally effective for treatment of uncomplicated vulvovaginal candidiasis**


**Question**
Are oral and intravaginal antifungal agents equally effective, safe, and cost-effective for uncomplicated vulvovaginal candidiasis?

**Data Sources**
Randomized controlled trials (RCTs) published in any language were identified by searching the Cochrane Controlled Trials Register (CENTRAL/CCCTR), the Cochrane Collaboration Sexually Transmitted Disease Group Specialised Register of Controlled Trials, EMBASE/Excerpta Medica (1980 to January 2000), and MEDLINE (January 1985 to May 2000). Reference lists of each trial were reviewed, and U.K. manufacturers of antifungal agents were contacted.

**Study Selection**
Trials were selected if they included women ≥16 years of age with mycologically confirmed acute vulvovaginal candidiasis (≥4 episodes in 12 mo) and compared ≥1 oral antifungal agent with an intravaginal antifungal agent. Trials were excluded if they included only participants who were HIV-positive, immunocompromised, pregnant, breast-feeding, or diabetic.

**Data Extraction**
Data were extracted on the type, dose, frequency, and duration of antifungal treatment; setting; participants; and outcome measures. Main outcomes were short- and long-term clinical cure rates. Secondary outcomes included mycological cure rates (culture), incidence of adverse reactions, and cost-effectiveness. Individual studies were assessed for methodologic quality (random allocation, concealment of allocation, adequate follow-up, and blinding of outcome assessors).

**Main Results**
17 RCTs reporting 19 comparisons were included in the analysis. The trials assessed 2 oral agents (fluconazole and itraconazole) and 4 intravaginal agents (clotrimazole, econazole, miconazole, and terconazole).

Meta-analyses were done using a random-effects model; the denominator for analysis was the number of randomized patients who had positive cultures for yeast before antifungal treatment began. Length of follow-up was classified as short term (5 to 15 d) and long term (2 to 12 wk). Oral and intravaginal antifungal agents did not differ for clinical cure at short-term (9 comparisons, n = 1247, 80% vs 80%) or long-term (7 comparisons, n = 836, 83% vs 82%) follow-up or for mycological cure at short-term (17 comparisons, n = 2239, 83% vs 82%) or long-term (14 comparisons, n = 1711, 72% vs 66%) follow-up. Sensitivity analyses based on all randomized participants, blinding, and the proportion of patients followed did not change the effect sizes for any of the outcomes.

11 trials reported on adverse reactions. Intravaginal agents were associated with such local reactions as irritation, burning, and pruritus and such systemic effects as headache, whereas oral agents were associated with such systemic effects as gastrointestinal effects and headache. Data were insufficient to compare the relative safety of oral and intravaginal agents. No trials of the relative cost-effectiveness of oral and intravaginal agents were found.

**Conclusions**
Oral and intravaginal agents are equally effective in the treatment of uncomplicated vulvovaginal candidiasis. Insufficient data exist on adverse effects and cost-effectiveness of the 2 types of treatment.

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The 17 RCTs were done in Europe (n = 9), the United States (n = 5), Japan (n = 1), Thailand (n = 1), and Africa (n = 1). The use of antifungal agents for vulvovaginal candidiasis varies by cultural habits, effectiveness, safety, and preferences characteristic of the given population.

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**References**