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P2157 *In vitro* activity of fenticonazole against *Candida* and bacteria vaginal isolates as determined by mono- or dual-species testing assay

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Background: *Candida* vaginitis affects up to 75% of women at least once in their lifetime, with persistent, refractory and debilitating vaginal infections. While *Candida* vaginitis may require a longer therapy with topical azoles, *Candida* and bacterial mixed vaginal infections require the use of concomitant antibacterial and antifungal treatments. Thus, fenticonazole may be a topical alternative to multi-agent antimicrobial therapy for mixed vaginal infections. We first investigated the dynamics of fenticonazole-induced killing in mono-species assays with *Candida* and bacterial vaginal isolates. We then assessed the fenticonazole killing activity in dual-species assays where mixed cultures of *C. albicans* with either *Staphylococcus aureus*, *Streptococcus agalactiae* or *Escherichia coli* were evaluated.

Materials/methods: We determined the *in vitro* activity of fenticonazole against 318 vaginal isolates of *Candida* and bacterial species, and we selected 28 isolates for time-kill curve studies. For pure culture assays, we inoculated aliquots of exponentially growing isolates' cultures in RPMI 1640 or Mueller-Hinton medium with or without (control) antifungal. Similarly, for mixed culture assays, we inoculated aliquots of exponentially growing isolates' cultures from each of two species in Mueller-Hinton medium (ratio 1:1). The fenticonazole concentrations tested were equivalent to 0.5×, 1×, 2×, 4×, and (only for *Candida* isolates) 8× the MIC value, as determined for each species' isolate.

Results: Overall, fenticonazole MICs were low. At concentration equal to 4× MIC, fenticonazole reached the 99.9% killing endpoint by ~8 h for *S. aureus*, *S. agalactiae* and *E. coli*; ~16 and ~19 h for *C. albicans* and *C. parapsilosis*, respectively; at concentration equal to 8× MIC, by ~20 h for both *C. tropicalis* and *C. glabrata*. At concentrations equal to 2× MIC, fenticonazole required ~20 h to reach the above endpoint against mixed *C. albicans* cultures of *S. aureus*, *S. agalactiae* or *E. coli* as compared to ~17 h for *C. albicans*.

Conclusions: MIC data reinforce the potent *in vitro* activity of fenticonazole against *Candida* and bacterial species. Time-kill data highlight that fenticonazole is microbicidal at supra-MIC concentrations such as those easily achieved in topically treated women' skin/mucosa surfaces during vaginitis episodes.