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## **A COMPARISON OF ANTIFUNGAL SUSCEPTIBILITIES OF *CANDIDA GLABRATA* ISOLATED FROM HEAD AND NECK RADIATION PATIENTS TO FLUCONAZOLE AND VORICONAZOLE**

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**Objectives:** The aim of this study was to compare the antifungal susceptibility patterns of *Candida glabrata* specimens isolated from patients receiving radiation treatment for head and neck cancers against both fluconazole and voriconazole. We wanted to evaluate the hypothesis that voriconazole may be a suitable alternative in treating oropharyngeal candidiasis in head and neck radiation patients whose infections are due to *C. glabrata* and have developed resistance to fluconazole. **Methods:** The identities of 163 *C. glabrata* isolates from 14 head and neck radiation patients were established by plating on Chrom-Agar, germ tube evaluation, and API 20C testing. The isolates were subcultured to ensure purity and then subjected to antifungal susceptibility testing against increasing concentrations of both fluconazole and voriconazole at the Fungus Testing Laboratory at the University of Texas Health Science Center. **Results:** 29% of isolates tested had voriconazole MICs of 1 g/ml or higher, and 9.2% of isolates had voriconazole MICs of 2 µg/mL or higher. The average voriconazole MIC of isolates susceptible to fluconazole (MIC < 8 µg/ml) was 0.304 µg/ml, the average voriconazole MIC of isolates that showed dose dependent susceptibility to fluconazole (MIC from 16-32 µg/ml) was 0.871 µg/ml, and the average voriconazole MIC for isolates resistant to fluconazole (MIC > 32 µg/ml) was 2.909 µg/ml. MIC90 for voriconazole was 2 µg/ml. Two of four patients with clinical signs of oropharyngeal candidiasis showed dramatic increases in voriconazole MICs after prolonged exposure to and development of resistance to fluconazole. **Conclusions:** *C. glabrata* isolates with elevated fluconazole MICs often have elevated voriconazole MICs as well. This data would imply that voriconazole would not be a good clinical choice to treat *C. glabrata* oropharyngeal candidiasis that is resistant to fluconazole. However, since clinical MIC breakpoints for treating *C. glabrata* with voriconazole have not been developed, it is premature to say that infections that are clinically resistant to fluconazole will also be resistant to voriconazole even with elevated MICs. This must be confirmed in clinical trials. Supported by NIDCR, Pfizer, and The Dental Oncology Education Program.