Mycotic Ulcer Treatment Trial II (MUTT II) - 2016

THE LENS

Objective

To determine whether there is clinical benefit with adjunctive use of oral voriconazole to topical antifungal eye-drops in the treatment of severe, filamentous fungal keratitis.

Methods

Design: Double-masked RCT

Sample Size: 240

Treatment Groups:
- 121 to placebo
- 119 to oral voriconazole (400mg loading dose; 200mg BID maintenance dose, 20 days)

All patients received topical voriconazole, 1%, and natamycin, 5%.

Outcome Measures:
- Corneal perforation, need for therapeutic penetrating keratoplasty
- Culture negativity (6 days), BCVA, complications associated with PO voriconazole

Results

Point 1: Oral voriconazole did not reduce the rate of corneal perforation or need for therapeutic penetrating keratoplasty between the two groups
- Hazard ratio analysis yielded a 0.82-fold decreased risk for these complications, but these findings were not statistically significant (95% CI, 0.57-1.18, *P=0.29*)

Point 2: No significant difference in BSCVA at 3 months between the groups.

Point 3: Subgroup analysis for only *Fusarium* species found a trend towards decreased rate of perforation or TPK in the PO voriconazole group.
- Effect coefficient, 0.49 (95% CI, 0.26-0.92, *P=* 0.03).
- All patients in this study were enrolled from India and Nepal; it is possible that organisms in this region exhibit different characteristics from those in other regions.

Point 4: Patients in the PO voriconazole treatment group experienced more adverse effects (58, 48.7%) vs. the placebo group (28, 23.1%). These included increased liver enzymes and visual hallucinations.

TLDR: The addition of oral voriconazole to topical antifungal eye drops in the treatment of severe filamentous fungal corneal ulcers did not improve clinical outcomes

Prajna NV, Krishnan T, Rajaraman R, et al. Effect of Oral Voriconazole on Fungal Keratitis in the Mycotic Ulcer Treatment Trial II (MUTT II): A Randomized Clinical Trial. *JAMA Ophthalmol.* 2016;134(12):1365–1372. doi:10.1001/jamaophthalmol.2016.4096