DOCUMENT FOR SUPPORT OF APPLICATION TO ADD NATAMYCIN EYE DROPS TO THE ESSENTIAL LIST OF MEDICINES FOR TREATMENT OF FUNGAL KERATITIS

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Fungal keratitis is a well known cause of visual impairment worldwide with approximately 50% cases being reported from Asian countries.[1] There is a variation in epidemiology of fungal keratitis cases in different geographical locations (higher in agricultural activities). The prevalence of fungal keratitis in North India region alone is 26–45.5%.[2] Its clinical presentation is often similar to bacterial or parasitic keratitis thereby making diagnosis difficult. The outcome of fungal keratitis is usually poor due to both delay in diagnosis and difficulty in treatment. Although, there is no standardized management protocol fungal keratitis, natamycin eye drops (tetraene polyene) has been regarded as the most important agent in the management of fungal keratitis and is universally prescribed.[3] It is quite effective in treating Aspergillus keratitis (which is quite common) and large ulcers, though resistant cases are managed by a combination of oral itraconazole or ketoconazole.[4] In the study from our centre too, nearly 95% of the cases were treated by natamycin eye drop with or without other antifungal agents.[2] Fungal ulcers were noted as serious public health problem in north China where Fusarium (77.6%), Aspergillus (10.8%) were predominant which were found to be sensitive to natamycin.[5]

A systematic review of published seven randomized controlled trials (RCTs) comparing natamycin to other antifungal agents carried out in developing countries of Asia (India -5, China-1, Bangladesh-1) was performed by Qui et al.[3] All trials were conducted in developing countries due to the higher prevalence of fungal keratitis in developed countries. They demonstrated significantly better outcomes when 5% natamycin was used rather than voriconazole ($P=0.006$), especially in Fusarium cases ($P<0.001$). When natamycin was compared with fluconazole, a significant difference was observed in cure rate ($P<0.05$) and effectiveness in natamycin group ($P<0.01$).

FlorCruz et al conducted a systematic review of twelve trials, ten of which were conducted in India, and one each in Bangladesh an Egypt.[6] They noted presence of better spectacle-
corrected visual acuity at two to three months in natamycin treated patients as compared to those treated with voriconazole. Additionally, there was a decreased risk of corneal perforation or therapeutic penetrating keratoplasty in natamycin treated group. They also observed better efficacy of natamycin against Fusarium species than voriconazole.

Based on these systematic reviews and higher incidence of fungal keratitis in our region, we support the application of adding natamycin eye drops in WHO list of essential medicines as this is the most commonly prescribed and most widely available topical antifungal agent which is quite effective in managing the patients of mycotic keratitis.

References


