Letters to the Editor

Investigative modalities in infectious keratitis

Dear Editor,

It was interesting to read the series of articles related to infectious keratitis under the title of symposium in the 3rd issue of 56th volume of Indian Journal of Ophthalmology. The article titled “Investigative modalities in infectious keratitis” written by Gupta et al.,[1] was of special interest to me. I have following comments related to this article:

1. While Bard Parker no. 15 blade and Kimura spatula are best for corneal scraping, 21 gauge needle is not a good option because of a higher risk of perforation especially in corneas that are necrotic; calcium alginate swabs are expensive and may not be accessible.

2. As a standard protocol three smears are prepared from corneal scrapings - one for 10% potassium hydroxide (KOH), second for Gram’s stain and the third for Geimsa stain. An additional smear can be prepared for acid fast staining. However, number of smears can be modified based on the size of ulcer and clinical diagnosis.

3. KOH-Calcofluor white preparation and lactophenol cotton blue stain not only help visualization of Acanthamoeba cysts but also fungal filaments.

4. Gram’s stain has a very limited value for deciding initial treatment. KOH preparation is rather a better choice. This is based on the fact that most antibacterial agents are bactericidal, clinical response in bacterial keratitis is obvious in 72 hours and the drugs used in the treatment of fungal and Acanthamoeba keratitis are toxic and need to be administered for a relatively prolonged period before signs of resolution become obvious. Therefore, treatment against these organisms should be started after laboratory confirmation. KOH preparation has a high specificity and therefore the best test to document these agents.[2]

5. It is not necessary to keep all plates for two or more weeks. National committee for clinical laboratory standards recommend maintaining blood and chocolate agar for one week and Sabourods dextrose agar and potato dextrose agar for two weeks.

6. I do not agree with the recommendation of routine microbiology for all corneal ulcer cases because of cost, difficulty in maintaining culture media, non-availability of microbiology facilities to most ophthalmologists, and lack of expertise in interpretation of smears among most ophthalmologists. This is practically impossible even in developed countries as documented in a study by McLeod et al.[3]

7. Confocal microscope cannot be considered an extremely useful tool in the investigation of microbial keratitis and definitely has no role in assessing prognosis.[4] The instrument is expensive and requires experience in interpretation of images. It offers advantage over routine microbiology only in cases where the infiltrate is deep seated and is not accessible to scraping. Similarly molecular diagnostic techniques require standardization and validation before being considered for routine use.

As a trained cornea specialist I enjoyed reading all four articles related to such an important condition. However, it would have been useful if these had addressed the issue for the Indian scenario keeping in mind the interest of ophthalmologists who first encounter these cases.

Prashant Garg

Cornea and Anterior Segment Service, L.V. Prasad Eye Institute, Hyderabad, India

Correspondence to Dr. Prashant Garg, L.V. Prasad Eye Institute, L.V. Prasad Marg, Banjara Hills, Hyderabad – 500 034, India.

E-mail: prashant@lvpei.org

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