

Ocular Infection: A Potentially Blinding Condition

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Dear Editor,

Ocular infections, if remained untreated, can damage the eye structures and lead to visual impairment and blindness.^{1,2} Therefore, causative pathogen profiles should be regularly updated to determine the proper management strategies for potentially vision-threatening microorganisms.

The authors of this valuable paper in "Oman Medical Journal"³ missed to discuss with our article that was published a year prior to their publication,⁴ likely owing to their search methods. However, the large sample size and long study duration are strengths of our study,⁴ making substantial discussion of the paper worthwhile.

We assessed the ocular infection profiles at Farabi Eye Hospital, the largest eye hospital in Iran,⁴ to which many patients from all regions are referred—rural, urban, and even overseas. Specimens were submitted within a 7-year period from patients with a mean age of 48.31 years. Initially, microorganisms were detected in 7224 (43.37%) specimens, of which 5039 (69.75%) were from outpatients and 2185 (30.25%) from inpatients. However, no microorganisms were detected in 9432 (56.63%) specimens in the initial smear, of which 4999 (53.00%) were from inpatients and 4433 (47.00%) from outpatients. Of the 7224 specimens with microorganisms detected in smears, gram staining revealed bacteria in 6515 (90.18%) specimens, of which 4567 (70.10%) were from outpatients and 1948 (29.90%) from inpatients; fungi in 672 (9.30%) specimens, of which 232 (34.52%) were from inpatients and 440 (65.48%) from outpatients; and both microorganisms in 37 (0.51%) specimens, of which 5 (13.51%) were from inpatients and 32 (86.49%) from outpatients.

Nearly half of the specimens submitted from outpatient clinics yielded microorganisms at the initial assessment, with the majority representing bacteria. Specimens obtained from the cornea were the most common and was the largest number of specimens in all seasons. Furthermore, the most commonly isolated bacteria were *Pseudomonas aeruginosa*, followed by *Staphylococcus epidermidis* and *Streptococcus pneumoniae*.

A substantial limitation of our study was that it failed to measure the incidence of ocular infections. However, we believe that unlike many previous studies with limited samples, including our single-center study,⁵ this study is particularly important because of its large sample size, making it unique within the Middle East and Asia.

Disclosure

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References

1. Teweldemedhin M, Gebreyesus H, Atsbaha AH, Asgedom SW, Saravanan M. Bacterial profile of ocular infections: a systematic review. *BMC Ophthalmol* 2017 Nov;17(1):212. .
2. Ubani UA. Common bacterial isolates from infected eye. *J Niger Optom Assoc.* 2009;15:40-47.
3. Shams Abadi MS, Arjmand MH, Kakian F, Mohammadian-Hafshejani A, Banitalebi-Dehkordi M, Heidari H. Bacterial Ocular Infections in Iran: A Systematic Review and Meta-analysis. *Oman Med J* 2023 Mar;38(2):e476. .
4. Asadi-Amoli F, Abedinifar Z, Nozarian Z, Heidary F, Memar MH, Nezamabadi A, et al. Microbiological Profile of Ocular Infection: A Large Retrospective Study. *Iran J Public Health* 2022 Jun;51(6):1419-1427. .
5. Zare M, Torbati PM, Asadi-Amoli F, Talebnejad M, Parvizi M, Nasiri Z, et al. Microbiological Profile of Corneal Ulcers at a Tertiary Referral Center. *Med Hypothesis Discov Innov Ophthalmol* 2019;8(1):16-21.