

Inpatient Management of Infectious Keratitis at Denver Health Medical Center

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Purpose:

Infectious keratitis (IK) is a painful and vision threatening condition caused by a variety of organisms. The American Academy of Ophthalmology preferred practice pattern recommends large or visually significant ulcers are treated with two fortified topical antibiotics with a loading dose of drops, followed by hourly instillation. IK is typically treated as an outpatient, however, a subset of patients require inpatient admission. Little research has examined the reason for admission or visual outcomes. At Denver Health Medical Center, a safety net hospital system, the hourly drop requirement necessitates admission to the intensive care unit, representing a significant use of resources. This study characterizes reason for admission and outcomes in patients requiring hospitalization for management of IK.

Methods:

All patients admitted to Denver Health for primary treatment of IK between January 1, 2017, and December 31, 2022, were included. This study was exempt from the Colorado Multiple Institutional Review Board Review due to the retrospective nature and was conducted in compliance with the Declaration of Helsinki. A database was created which included information on demographics, ocular and medical risk factors associated with IK, treatment, reason for admission, presenting and final visual acuity (VA), organism identified by culture, and size of ulcer at admission. Patients admitted for an alternate medical problem with concurrent IK treatment were excluded.

Results:

After exclusion criteria was applied, 15 patients and 18 admissions were included for analysis. Concern for drop compliance in an outpatient setting was the most common reason for admission (67%) followed by demonstrated lack of compliance in an outpatient setting. Average length of stay was 7 days \pm 5.72. The majority of patients (73%) were seen at least once after discharge. Of patients seen at DHMC for follow-up, 33% had VA of 20/200 or better and 33% of patients had improved VA compared to VA on admission.

Conclusion:

This study sought to categorize characteristics of IK managed by inpatient admission. At Denver Health, there is significant resource utilization due to ICU admission, highlighting the importance of risk factor identification and consideration of social barriers when managing IK. Alternate treatment approaches including the use of subconjunctival antibiotics should be evaluated as a viable treatment option for IK.