INFECTIOUS KERATITIS ISOLATES AND SUSCEPTIBILITY IN SEATTLE, WASHINGTON

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BACKGROUND

Empiric therapy remains the standard approach for treating infectious keratitis (IK). We aim to provide valuable insight into the prevalence and antibiotic susceptibility patterns for microbial isolates causing IK at the University of Washington – the largest tertiary referral center serving the Pacific Northwest – to help guide empiric treatment strategies for this region.

METHODS

Study Design:

- Retrospective chart review of patients diagnosed with corneal ulcers between January 1, 2014, and December 31, 2024, at Harborview Medical Center and the UW Eye Institute.

Exclusion:

- Cases of viral keratitis

Outcomes:

- Prevalence of microbial isolates
- Antibiotic susceptibility and resistance patterns

ACKNOWLEDGEMENTS

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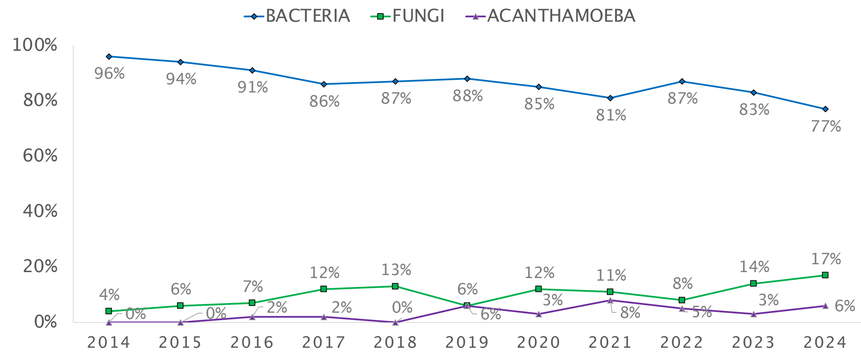
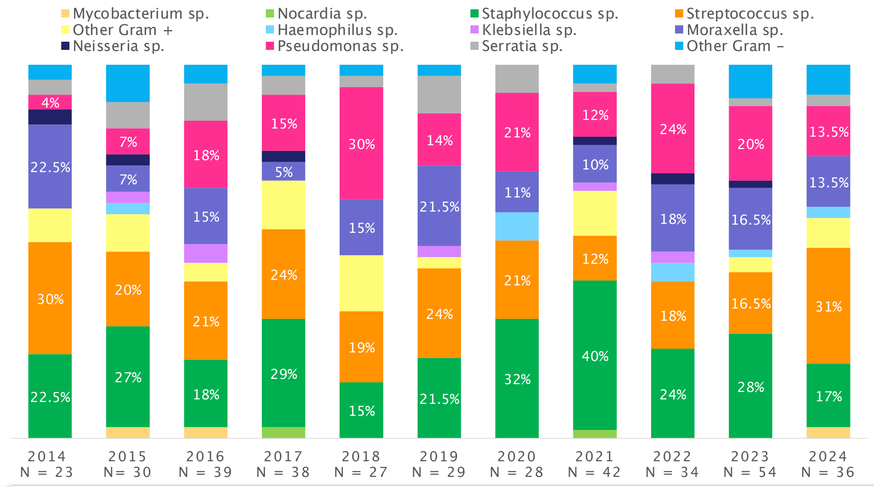
RESULTS

Figure 1. Yearly Trends of Microbial Isolates (2014-2024)



Over an 11-year period, bacterial keratitis cases declined, while fungi and acanthamoeba keratitis cases increased.

Figure 2. Yearly Changes of Bacterial Species Isolates (2014-2024, N = 380)

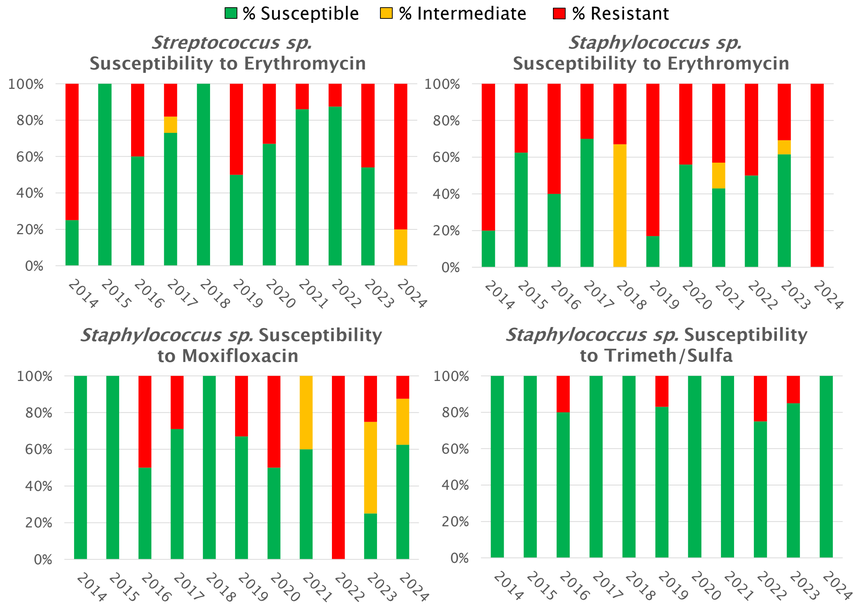


***Staphylococcus sp.* was the leading cause of infectious keratitis.**

Limitations:

(1) The number of isolates per species group was relatively small, which restricts the ability to detect meaningful trends or statistical significance.
(2) The isolates were collected exclusively from a tertiary care center, which may limit the generalizability of the findings to other healthcare settings, such as community hospitals or outpatient practices.

Figure 3. Year-to-Year Trends in Susceptibility to Antibiotics of Common Bacterial Isolates



There is an increase in resistance of *Streptococcus* and *Staphylococcus* to erythromycin. *Staphylococcus* remains highly resistant to moxifloxacin but susceptible to trimethoprim/sulfamethoxazole.

Table 1. Most Common Bacteria and Their Susceptibility Profiles to Common Topical Antibiotics (2024)

Bacterial Isolate	Highest Susceptibility	Highest Resistance
Streptococcus	Vancomycin (100%)	Erythromycin (12.5%)
Staphylococcus	Vancomycin (100%) Trimeth/sulfa (100%)	Erythromycin (100%)
Pseudomonas	Tobramycin (100%) Ciprofloxacin (100%)	None

Clinicians should exercise caution when prescribing erythromycin for *Staphylococcus* infections, given the observed resistance in all cases.