TABLE 4 ANTIBIOTIC THERAPY FOR BACTERIAL KERATITIS

Organism	Antibiotic	Topical Dose	Subconjunctival Dose
Gram-positive cocci	Cefazolin	50 mg/mL	100 mg in 0.5 mL
	Vancomycin	25–50 mg/mL	25 mg in 0.5 mL
	Moxifloxacin, gatifloxacin, levofloxacin, besifloxacin	5–6 mg/mL	Not available
Gram-negative rods	Tobramycin	9–14 mg/mL	20 mg in 0.5 mL
	Ceftazidime	50 mg/mL	100 mg in 0.5 mL
	Ciprofloxacin, ofloxacin, moxifloxacin, gatifloxacin, levofloxacin, besifloxacin	3–6 mg/mL	Not available
None or multiple types of organisms	Fortified cefazolin	50 mg/mL	100 mg in 0.5 mL
	with		
	Fortified tobramycin	9–14 mg/mL	20 mg in 0.5 mL
	or		
	Fluoroquinolones	3–6 mg/mL	Not available
Gram-negative cocci	Ceftriaxone	50 mg/mL	100 mg in 0.5 mL
	Ceftazidime	50 mg/mL	100 mg in 0.5 mL
	Ciprofloxacin, ofloxacin, moxifloxacin, gatifloxacin, levofloxacin, besifloxacin	3–6 mg/mL	Not available
Mycobacteria	Clarithromycin	10 mg/mL 0.03%	
	Moxifloxacin, gatifloxacin, besifloxacin	5–6 mg/mL	Not available
	Amikacin		
		20–40 mg/mL	20 mg in 0.5 mL
Gram-positive rods (*Nocardia*)	Sulfacetamide	100 mg/mL	
	Amikacin	20–40 mg/mL	20 mg in 0.5 mL
	Trimethoprim/sulfamethoxazole:		
	trimethoprim	16 mg/mL	
	sulfamethoxazole	80 mg/mL	

Modified with permission from the American Academy of Ophthalmology Basic and Clinical Science Course Subcommittee. Basic Clinical and Science Course. External Disease and Cornea: Section 8, 2022–2023. Table 10-6. San Francisco: American Academy of Ophthalmology, 2022.

Corticosteroid Therapy

Topical corticosteroid therapy may have a beneficial role in treating some cases of microbial keratitis. Much of the literature shows no difference in clinical outcome with the addition of corticosteroids.[177-180] The potential advantage is the probable suppression of inflammation, which may reduce subsequent corneal scarring and associated visual loss. Potential disadvantages include recurrence of infection, local immunosuppression, inhibition of collagen synthesis predisposing to corneal melting, and increased intraocular pressure (IOP). The Steroids for Corneal Ulcer Trial (SCUT) found no benefit of concurrent topical corticosteroid therapy using prednisolone phosphate 1% in conjunction with broad-spectrum topical antibiotic.[181] However, this study did not find an increase of adverse events associated with corticosteroid use in bacterial keratitis therapy. In a subgroup analysis of SCUT data, there was a potential benefit for using corticosteroids in *Pseudomonas* keratitis and in more severe (ulcers completely covering the central 4-mm pupil or vision of counting fingers or worse) cases of bacterial keratitis. The same study found that treatment of *Nocardia* keratitis with corticosteroids resulted in poor visual outcomes,[182] and a subsequent follow-up found that these results were similar at the 12-month follow-up.[183] A second subgroup analysis of non-*Nocardia* keratitis found that the addition of topical corticosteroids within 2 to 3 days of antibiotic therapy (rather than after 4 or more days) resulted in a 1-line better visual acuity at 3 months compared with placebo.[184]

A consideration in topical corticosteroid therapy is to use the minimum amount required to achieve control of inflammation. Successful treatment requires optimal timing, careful dose regulation, use of adequate concomitant antibacterial medication, and close follow-up.