

Subconjunctival Hemorrhage following Ciprofloxacin– Dexamethasone Eye Drop

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Abstract—Background: Conjunctivitis is a common pediatric ocular condition often treated with antibiotic and corticosteroid combination eye drops. Although generally well tolerated, such combinations can occasionally lead to rare adverse drug reactions (ADRs), including subconjunctival hemorrhage.

Objective: To report a rare case of subconjunctival hemorrhage following the use of ciprofloxacin-dexamethasone eye drops in a child treated for suspected acute conjunctivitis.

Methods: A 12-year-old girl presented to the outpatient department (OPD) of a tertiary care hospital with complaints of dark redness in the right eye. History revealed she had been previously treated at a local clinic with ciprofloxacin-dexamethasone eye drops for symptoms of redness, irritation, and watering of the eye. No history of trauma, systemic disease, or bleeding disorder was reported.

Results: Within 24 hours of initiating treatment, and after only two doses, the patient developed a well-demarcated subconjunctival hemorrhage in the right eye, without pain or vision impairment. Upon presentation to the tertiary care center, the drops were discontinued, and conservative treatment with lubricating eye drops and cold compresses was initiated. The hemorrhage resolved spontaneously over 8–10 days.

Conclusions: This case illustrates a rare but notable ADR to a commonly used topical steroid-antibiotic preparation in children. Clinicians should exercise caution when prescribing such combinations and educate caregivers on recognizing early warning signs. Prompt drug withdrawal can prevent complications and support full recovery.

Index Terms—Subconjunctival Hemorrhage; Ciprofloxacin-Dexamethasone Eye Drop; Adverse Drug Reaction (ADR); Pediatric Conjunctivitis.

I. INTRODUCTION

Topical corticosteroid-antibiotic combinations, such as ciprofloxacin and dexamethasone, are frequently prescribed for bacterial conjunctivitis and ocular inflammation in children. While effective, these formulations can occasionally lead to unintended ocular side effects ranging from mild irritation to more serious events like elevated intraocular pressure and rare hemorrhagic manifestations (Jahn et al., 2022). Subconjunctival hemorrhage, characterized by bleeding beneath the conjunctiva, is uncommon in children unless linked to trauma, systemic illness, or coagulopathies (Mohamed & Fox, 2020). We report a rare case of subconjunctival hemorrhage following ciprofloxacin-dexamethasone administration in a previously healthy child.

II. CASE REPORT

A 12-year-old female presented to the OPD with a sudden appearance of dark red discoloration in her right eye. She had no complaints of pain, photophobia, discharge, or blurred vision. Her medical history was unremarkable. There was no history of trauma, systemic illness, or use of anticoagulant or antiplatelet medications.



Figure 1. Hemorrhage Following Eye Drop

A detailed medication history revealed that she had been prescribed ciprofloxacin 0.3% and dexamethasone 0.1% eye drops (2 drops, twice daily) from a local clinic for symptoms suggestive of acute conjunctivitis. The hemorrhage appeared less than 24 hours after the second dose (Figure 1).

Upon ophthalmic examination, the patient had a bright red, non-painful subconjunctival hemorrhage localized to the temporal aspect of the right eye. Visual acuity and intraocular pressure were normal. No signs of infection, corneal abrasion, or inflammation were noted. Laboratory investigations, including complete blood count, platelet count, prothrombin time, and activated partial thromboplastin time, were all within normal limits. Given the temporal association and exclusion of other causes, an ADR was suspected. The eye drops were immediately discontinued.

Conservative management was initiated using lubricating eye drops and cold compresses. Over the following 8–10 days, the hemorrhage gradually resolved without sequelae.

III. DISCUSSION

Subconjunctival hemorrhage in children is relatively rare and usually linked to trauma or systemic conditions (Kanski & Bowling, 2020). Drug-induced subconjunctival hemorrhage is infrequently reported in the pediatric population, particularly following topical ophthalmic medications (Biswas et al., 2021). Dexamethasone, a corticosteroid, can cause vascular fragility, particularly in sensitive individuals (Gould et al., 2019). Ciprofloxacin, a fluoroquinolone, has been associated with collagen degradation and microvascular damage in systemic use (Dore et al., 2018). While the topical route minimizes systemic

exposure, localized adverse effects may still occur, especially in children with thinner conjunctival vasculature.

Causality assessment using the Naranjo Algorithm yielded a score of 5, indicating a probable ADR (Naranjo et al., 1981). Although rare, the possibility of an idiosyncratic or hypersensitivity reaction to the drug combination cannot be excluded. Few cases exist in literature documenting such ocular ADRs in pediatric patients following this combination (Lee et al., 2023; Sharma & Rathore, 2017). This case highlights the importance of post-prescription surveillance and patient/caregiver education in recognizing early signs of adverse drug events.

IV. CONCLUSION

This case underscores the need for caution when prescribing corticosteroid-antibiotic eye drops in children. Though rare, subconjunctival hemorrhage should be recognized as a potential adverse drug reaction. Early identification, prompt drug withdrawal, and supportive care can ensure full recovery without complications.

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