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# A Case Report of Bullous Subconjunctival Hemorrhage in Adenoviral Conjunctivitis

Sean Haynie and Jesse Johnson, MD



## INTRODUCTION

Subconjunctival hemorrhage is a benign and self-limiting condition that often occurs without any obvious trauma to the eye. Most cases do not cause pain or changes in vision, and thus no active management is required. We present a case of subconjunctival hemorrhage that resulted in the formation of bullae and caused significant ophthalmic morbidity in a patient on therapeutic anticoagulation with adenoviral conjunctivitis.

## CASE

A 78-year-old female with a past medical history of optic neuropathy and atrial fibrillation on warfarin presented with two weeks of progressive bilateral eye redness, swelling, pain, and blurry vision. Initially, the patient was experiencing symptoms only in her right eye, and the contralateral eye became involved throughout the course of her illness. Examination was remarkable for bilateral bullous subconjunctival hemorrhage and trace edema of her eyelids with tenderness to palpation (**Figure 1**). Tonometry, computed tomography scan of the orbits, and fluorescein stain were all unrevealing. A viral respiratory pathogen panel was positive for adenovirus, and INR appropriately elevated to 2.13 on admission. Other laboratory tests were within normal limits. She was treated with carboxymethylcellulose sodium 0.5% ophthalmic solution and erythromycin 0.5% ophthalmic ointment 5mg/g three times daily, which significantly improved both her pain and blurry vision. The patient was discharged and scheduled to follow up with oculoplastics and ophthalmology.

**Figure 1.** Bilateral subconjunctival hemorrhage with edematous eyelids and watery discharge.

## DISCUSSION

The conjunctiva is a thin transparent membrane that covers the sclera as well as the inner surface of the eyelid.<sup>1</sup> Inflammation of this membrane is known as conjunctivitis.<sup>1</sup> Viral conjunctivitis is typically caused by adenovirus and is the most common overall cause of infectious conjunctivitis.<sup>2</sup> The virus itself is spread through direct contact with an infected individual or their secretions as well as contaminated objects or surfaces.<sup>3</sup> Most often, patients will present with injection, watery or mucoserous discharge, and a burning or gritty sensation affecting one of their eyes.<sup>4</sup> However, it is common for the other eye to become involved within the first 24-48 hours.<sup>4</sup> This condition is self-limiting, with symptoms worsening over the first three to five days, followed by a gradual recovery over two to three weeks.<sup>4</sup> While antiviral agents are not indicated in the treatment of viral conjunctivitis, patients may benefit from the use of topical antihistamines, decongestants, or lubrication by either antibiotic or nonantibiotic ointments.<sup>1</sup> The patient in this case did not demonstrate the classic presentation of viral conjunctivitis, specifically with regard to her prolonged period of worsening symptoms, and bullous subconjunctival hemorrhage. Subconjunctival hemorrhage is a common condition and refers to bleeding into the compartment located between the conjunctiva and the episclera.<sup>5</sup> There are many known risk factors associated with subconjunctival hemorrhage, including acute conjunctivitis,

trauma, contact lens use, systemic vascular disease, and anticoagulation therapy.<sup>5,6</sup> Alternatively, bullous subconjunctival hemorrhage, marked by the presence of conjunctival bullae, is an exceedingly rare condition that is generally limited to cases of ocular trauma with scleral rupture.<sup>5</sup> To date, there appears to be no cases of non-traumatic bullous subconjunctival hemorrhage, such as that seen in our patient. Without other known risk factors, it is possible that her warfarin use, in the setting of adenoviral conjunctivitis, contributed to this unique presentation.

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