

Bilateral Subconjunctival Hemorrhage Following Vaginal Delivery: A Case Report

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Abstract

Case Report

Background: Subconjunctival hemorrhage is a superficial extravasation of blood beneath the conjunctiva. It is usually painless, self-limiting and benign, although its appearance may cause significant anxiety. Labor-related Valsalva maneuvers may increase venous pressure and precipitate conjunctival vessel rupture. **Case presentation:** A 38-year-old multiparous woman presented with sudden bilateral ocular redness immediately after an uncomplicated vaginal delivery. Visual acuity was preserved at 20/20 in both eyes, and clinical examination showed extensive bilateral subconjunctival hemorrhage without visible corneal or obvious intraocular involvement. There was no history of trauma, hypertension, diabetes, anticoagulant therapy or hematological disease. **Management and conclusion:** Conservative management was provided with reassurance, compresses and artificial tears. This case highlights a rare postpartum ocular finding likely related to increased intra-abdominal and venous pressure during the second stage of labor. Red flags and systemic risk factors should be actively excluded.

Keywords: subconjunctival hemorrhage; postpartum; vaginal delivery; Valsalva maneuver; red eye.

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INTRODUCTION

Subconjunctival hemorrhage is defined by the presence of blood between the bulbar conjunctiva and the episclera. It presents as a well-demarcated or diffuse red patch visible over the sclera, generally without pain, photophobia or impairment of visual acuity [1,2]. Despite its striking appearance, it is most often benign and resolves spontaneously.

The causes are classically divided into traumatic and non-traumatic. Minor trauma, eye rubbing, contact lens wear, ocular surgery, arterial hypertension, diabetes, coagulation abnormalities, anticoagulant or antiplatelet therapy, as well as conditions that raise venous pressure, are recognized factors [1,4,5]. Coughing, vomiting, constipation, heavy lifting and Valsalva maneuvers can trigger a subconjunctival hemorrhage in the absence of direct trauma [2,3].

Pregnancy and childbirth are accompanied by hemodynamic, hormonal and ocular changes. During the second stage of labor, expulsive efforts can raise intra-abdominal pressure and cervicofacial venous pressure, promoting the rupture of small conjunctival vessels [7,8].

Reported cases of postpartum subconjunctival hemorrhage remain few in the recent literature [9].

We report a case of bilateral subconjunctival hemorrhage occurring in the immediate postpartum period after a vaginal delivery, in a patient with no identified systemic risk factor.

CASE REPORT

A 38-year-old multiparous woman presented in the immediate postpartum period with sudden bilateral ocular redness, described as a sensation of ocular "bleeding," occurring after the delivery of her seventh child. The delivery took place vaginally, assisted by the obstetric team and midwives, without any reported maternal or neonatal complication.

The pregnancy follow-up was unremarkable and the available prenatal work-up was normal. On admission, vital signs were stable. The second stage of labor had lasted approximately 60 minutes.

The patient reported no ocular pain, itching, decreased vision, discharge, photophobia or foreign-body sensation. She wore no contact lenses and used no

eye drops. She was taking no regular medication. History revealed no arterial hypertension, diabetes, coagulation disorder, ocular trauma, excessive eye rubbing, ophthalmic surgery, significant coughing or previous similar episode. No family history of ocular or hematological disease was reported.

General examination revealed a conscious and hemodynamically stable patient. Vital signs were as follows: blood pressure 120/70 mmHg, pulse 80 beats/minute, respiratory rate 18 breaths/minute, peripheral oxygen saturation 98% on room air, and temperature 37 °C. Cardiopulmonary examination and examination of the extremities showed no obvious clinical abnormality.

Initial ophthalmic examination revealed an extensive bilateral subconjunctival hemorrhage,

documented by cropped clinical photography (Figure 1). Visual acuity was preserved at 20/20 in both eyes. There was no visible corneal lesion, no deficit of ocular movements and no pupillary abnormality. The pupils were symmetrical, with direct and consensual light reflexes present. The anterior chambers appeared clinically clear, without hyphema or hypopyon. The lens was clear. Intraocular pressure was estimated to be normal on palpation.

Slit-lamp examination and fundoscopy could not be performed immediately because of patient discomfort and the immediate postpartum setting. On the basis of the history, the timing and the clinical examination, the retained diagnosis was a bilateral postpartum subconjunctival hemorrhage most likely triggered by the expulsive efforts of labor.

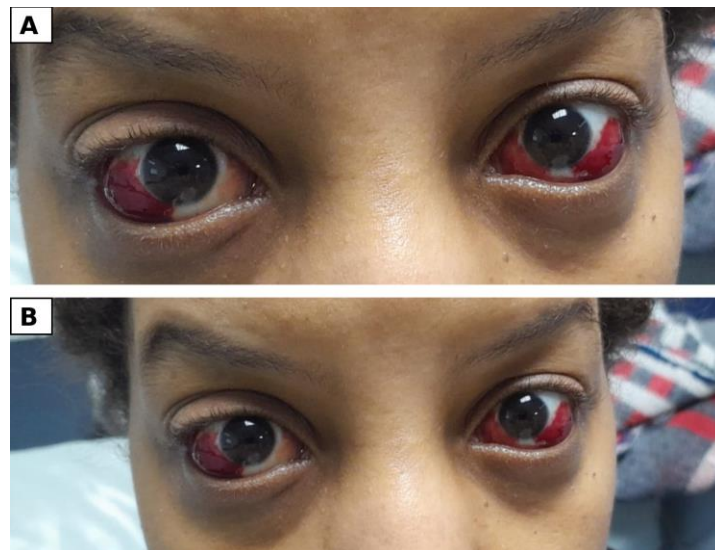


Figure 1: Cropped clinical photographs showing an extensive bilateral subconjunctival hemorrhage in the immediate postpartum period after vaginal delivery. A: close-up view; B: complementary view

Management and Outcome

Management was conservative. The patient was informed of the usually benign and self-limiting nature of subconjunctival hemorrhage in the absence of signs of intraocular or systemic involvement.

Treatment comprised cold compresses during the first 24 hours, followed by warm compresses to both eyes. Artificial tears were prescribed six times daily to improve ocular comfort. A naphazoline-based vasoconstrictor eye drop was used briefly for symptomatic purposes. Clinical monitoring was recommended, with ophthalmic consultation in case of pain, decreased vision, photophobia, rapid extension, recurrence or the appearance of other hemorrhagic signs.

According to the available data, no immediate complication was observed. Longer-term clinical outcome should be documented before final submission if an ophthalmic follow-up was carried out.

DISCUSSION

Subconjunctival hemorrhage is a frequent cause of acute ocular redness. In a prospective study of 8,726 patients attending an ophthalmology clinic, 225 cases were identified, corresponding to a frequency of 2.9% [4]. Other studies report a variable incidence depending on the populations studied, notably 3 cases per 1,000 patients per year in a rural Indian population attending an ophthalmology clinic [6].

Occurrence in the postpartum period is less well documented. An older study of 354 postpartum patients reported subconjunctival hemorrhages in 10.5% of cases [7]. More recently, Kamal and Dwinastiti described a case of bilateral subconjunctival hemorrhage after delivery, reinforcing the hypothesis of a mechanism related to expulsive effort and increased intra-abdominal pressure [9].

From a pathophysiological standpoint, the pushing efforts during the second stage of labor resemble repeated Valsalva maneuvers. The transient rise in intra-abdominal pressure and cervicofacial venous pressure can lead to venous congestion and rupture of superficial conjunctival or episcleral capillaries [2,3]. In our patient, the immediate timing after delivery, the duration of the expulsive phase and the absence of trauma or identified systemic risk factor make this mechanism highly probable.

Clinical evaluation must nevertheless remain rigorous, because subconjunctival hemorrhage can reveal or accompany underlying conditions. Factors to look for include arterial hypertension, diabetes, hemostatic disorders, hematological diseases, use of anticoagulants or antiplatelet agents, ocular trauma, contact lens wear and recurrent episodes [1,5,10]. In atypical, recurrent, unexplained bilateral cases or those associated with other hemorrhagic signs, a laboratory work-up including at least a complete blood count and a coagulation profile may be considered [2].

The diagnosis is essentially clinical. Reassuring features are the absence of pain, photophobia, decreased visual acuity, purulent discharge, pupillary abnormality, hyphema or limitation of ocular movements [2,3]. Conversely, severe pain, decreased vision, photophobia, trauma, suspicion of a foreign body, ocular protrusion, hyphema, severe headache or neurological signs should prompt a search for more serious pathology and warrant an urgent ophthalmic opinion.

Management is usually conservative. Simple hemorrhages resolve spontaneously within one to three weeks depending on their extent [2,3]. Artificial tears may relieve irritation or the sensation of discomfort, without accelerating resorption. Compresses may improve comfort, but topical corticosteroids, antibiotics or vasoconstrictors are not routinely necessary and do not shorten the time to resorption [3]. Reassurance and patient education therefore constitute a central step in management.

Our observation has certain limitations. Slit-lamp examination and fundoscopy were not performed initially, which limits complete anatomical documentation. Intraocular pressure was not measured by tonometry.

CONCLUSION

Bilateral subconjunctival hemorrhage in the immediate postpartum period is a rarely reported presentation, most often benign when it is isolated and visual acuity is preserved. In the present case, the most likely hypothesis is a rupture of conjunctival capillaries promoted by increased intra-abdominal and venous

pressure during the second stage of labor. A structured approach, combining a targeted history, ophthalmic examination, blood pressure measurement, a search for red flags and patient information, allows unnecessary treatments to be avoided while identifying situations requiring a more thorough work-up.

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