Purtscher’s retinopathy following trauma: A case report

Seyed Ahmad Rasoulinejad

Department of Ophthalmology, Ayatollah Rouhani Hospital, Babol University of Medical Sciences, Babol, Iran

Objectives: Purtscher’s retinopathy is the retinal damage following trauma or non-traumatic systemic disease, which may contain cotton-wool spots (CWSs), and may cause Purtscher flecken, atrophy of the optic nerve, and hemorrhage of the posterior pole of the eye.

Case Presentation: A 28-year-old male patient fell down from a height of 10 m and was admitted with swelling and ecchymosis of the peri-orbit of the right eye. The patient’s vision was at the level of light perception. A mild subconjunctival hemorrhage and hyphema were seen in the right eye. In the fundus, the hemorrhage, edema, and CWS were seen in the posterior pole and around the optic disk (Figure 1). Macular thickness (MT) in Purtscher’s retinopathic eye was 353 µm. Also, the patient had a nose and mandibular fracture and was hospitalized for several days.

Conclusion: The findings indicate a decrease in the vision due to Purtscher’s retinopathy caused by trauma. There was no improvement spontaneously.

Keywords: Eye, Retina, Retinal diseases, Macular edema

Introduction

Purtscher’s retinopathy is the retinal damage following trauma or non-traumatic systemic disease, which was reported in 1910 for the first time (1). Purtscher’s retinopathy is a rare idiopathic disease that may lead to permanent or temporary blindness. Cotton-wool spots (CWSs), Purtscher Flecken, atrophy of the optic nerve, and hemorrhage of the posterior pole of the eye are found in Purtscher’s retinopathy (2,3). Acute pancreatitis, Amniotic fluid embolism, Systemic lupus erythematosus, Thrombotic thrombocytopenic purpura, Chronic kidney failure, and Fat embolism syndrome are non-traumatic systemic diseases causing Purtscher’s retinopathy (4-6).

The retinal funduscopic examination is the primary diagnosis method (7). Also, fluorescein angiography is helpful for the evaluation of blood flow in central retinal arteriolar occlusion (8). Most cases recover after a few weeks of initial assessment without any medications. However, there are no identified medications for Purtscher’s retinopathy, while there are some reports about the effect of triamcinolone on Purtscher’s retinopathy (3,8).

Case Presentation

In this case report, the patient was a 28-year-old male patient who was referred three weeks after the fall from a height of 10 m. In the first examination, swelling and ecchymosis of the peri-orbit of the right eye were observed. The motion of the eye was normal in all directions, and the relative afferent pupillary defect was negative.

The patient’s vision was at the level of light perception. A mild subconjunctival hemorrhage and hyphema were seen in the right eye. In the fundus, the hemorrhage, edema, and CWS were seen in the posterior pole and around the optic disk. Macular thickness (MT) in Purtscher’s retinopathic eye was 353 µm. Also, the patient had a nose and mandibular fracture and was hospitalized for several days.

Discussion

Trauma is a primary cause of Purtscher’s retinopathy (4). Evidence indicates that in cases of Purtscher’s retinopathy due to the severe head injury in which the patient has lost his sight, other similar findings can be observed under conditions such as thoracic compression, acute pancreatitis, fat embolism, retrobulbar anesthesia, connective tissue disease, and childbirth. Hemorrhage and CWS are two common features in Purtscher’s retinopathy (9). While there is no certain treatment for Purtscher’s retinopathy, steroid therapy has been significantly reported. Systemic steroid therapy may improve vision in some patients, but there is currently little evidence to support this treatment. CWSs are the accumulation of axoplasmic material in the nerve fiber layer (10). Our case had CWSs. This retinal
nerve damage may lead to visual impairment. Increasing the MT was another finding in our case. MT of impaired eye increased 56.2% compared to the healthy eye. This macular edema, which is caused following trauma, is present in OCT.

After two months, there was no self-improvement in this patient without medications, while most patients are treated spontaneously. In a study by Blodi et al, three of four Purtscher’s retinopathy cases were treated without any medications (11).

**Conclusion**

Our case was a Purtscher’s retinopathy following a trauma, which did not have spontaneous improvement after two months.

**Competing Interests**

None.

**Funding**

None.

**Ethical Approval**

There is no ethical issue on this manuscript.

**References**


