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Spontaneous Bilateral Suprachoroidal Hemorrhage in a Child with Idiopathic Thrombocytopenic Purpura: A Case Report

Mehrdad Motamed Shariati [1], Mohsen Mohammadzadeh [1], Seyedeh Maryam Hosseini [1], *Seyed Hossein Ghavami Shahri [1], Mitra Karimi Amir Abadi [1], Javad Sadeghi Allahabadi [1]

[1] Eye Research Center, Mashhad University of Medical Sciences, Mashhad, Iran.2 Faculty member, Department, Tehran, Iran.

Abstract

Purpose: This study aimed to report the case of a 3-year-old child with Idiopathic Thrombocytopenic Purpura (ITP) presented with massive bilateral spontaneous suprachoroidal hemorrhage.

Case report: A three-year-old boy with a history of ITP was referred with acute painful vision loss from 2 days ago. Visual acuity was No Light Perception (NLP) for the Right Eye (RE) and Light Perception (LP) for the Left Eye (LE). Anterior segment examination showed bilateral red eye, mild corneal edema, as well as relatively shallow and symmetric anterior chamber. Bilateral massive suprachoroidal hemorrhage with retinal apposition was apparent in B-scan ultrasonography. The patient underwent bilateral SCH drainage through four sclerotomy windows, one in each quadrant of each eye. In the last follow-up examination, one week after the surgery, the visual acuity was light perception and hand motion in RE and LE, respectively. Serial B-scan sonography indicated the reduction of hemorrhage in the suprachoroidal space.

Conclusion: Spontaneous Supra-choroidal Hemorrhage (SSCH) is an extremely rare condition that can occur in the case of ITP. Despite the anatomical recovery of the patient following suprachoroidal drainage surgery, the visual outcome remained poor.

Key Words: Spontaneous suprachoroidal hemorrhage, Idiopathic thrombocytopenic purpura, Scleral window.

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Corresponding Author:

Seyed Hossein Ghavami Shahri, Eye Research Center, Mashhad University of Medical Sciences, Mashhad, Iran.2 Faculty member, Department, Tehran, Iran. sh.ghavami@yahoo.com

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1- INTRODUCTION

Suprachoroidal hemorrhage (SCH) is a rare but vision-threatening condition with various causes. It usually occurs following trauma or intraocular surgeries (1). Massive hemorrhaging in the potential space between the choroid and sclera causes the retinal apposition. Depending on the severity of the hemorrhage, surgical or conservative approaches considering frequent patient monitoring have been proposed previously (2). Central choroidal apposition, a flat anterior chamber (AC), retinal detachment, uncontrolled high intraocular pressure (IOP), and severe pain are the main indications for SCH drainage (3). Spontaneous Supra-Choroidal Hemorrhage (SSCH) is an extremely rare condition that typically occurs in association with systemic and intraocular risk factors, including old age, hypertension, the use of anticoagulants, and thrombocytopenia(4). High myopia, glaucoma, acute hypotonia, choroidal hemangioma, choroidal melanoma, Age-Related Macular Degeneration (ARMD), Peripheral Exudative Hemorrhagic Chorioretinopathy (PEHCR), and Polypoidal Choroidal Vasculopathy (PCV) are some reported ocular risk factors(5). There have been some reports of SSCH in patients with ARMD and leukemia (4). Idiopathic Thrombocytopenic Purpura (ITP), also called autoimmune thrombocytopenic purpura, is an autoimmune disorder characterized by a decrease in platelets that makes the patient prone to bleeding (6). No cases of SSCH have been reported previously in ITP. This report aimed to introduce a child with ITP with massive bilateral SSCH.

2- CASE REPORT

A three-year-old boy with a history of ITP was referred to the ophthalmic emergency department with acute painful vision loss 2 days ago. The child was poorly cooperative for ocular examination. Visual acuity was No Light Perception (NLP) for the Right Eye (RE) and Light Perception (LP) for the Left Eye (LE). Anterior segment examination showed bilateral red eye, mild corneal edema, relatively shallow and symmetric anterior chamber, and clear lens in both eyes. Intraocular Pressure (IOP) was 22 and 23mmHg in RE and LE, respectively. Poor red reflex was observed in both eyes. There was no history of trauma. As presented in **Fig. 1**, bilateral massive suprachoroidal hemorrhage with retinal apposition was apparent in B-scan ultrasonography.

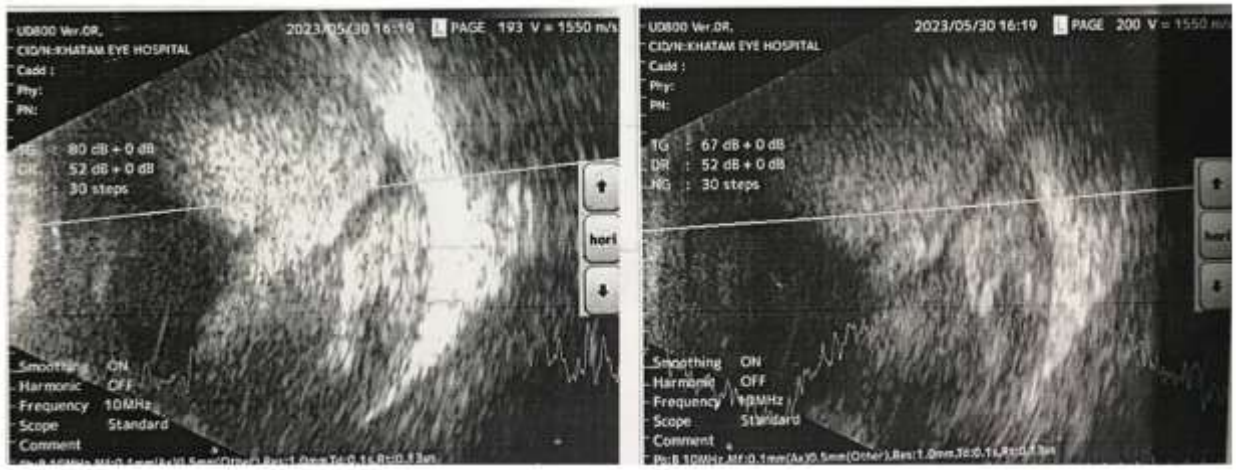

Fig. 1: B-scan ultrasonography showed massive bilateral suprachoroidal hemorrhage with choroidal apposition.

The platelet count was 20000 per microliter. Regarding the clinical condition, the patient underwent bilateral SCH drainage through four sclerotomy windows, one in each quadrant of each eye. After the surgery, topical atropine every 6 hours, topical and systemic prednisolone, and topical prophylactic antibiotic were started. Besides, according to the consultation with the pediatrician, he was referred to the children's hospital to continue systemic treatment, including Intravenous Immunoglobulin (IVIG). In the last follow-up examination, one week after the surgery, the visual acuity was light perception and hand motion in RE and LE, respectively. Serial B-scan sonography indicated the reduction of hemorrhage in the suprachoroidal space (**Fig. 2**).

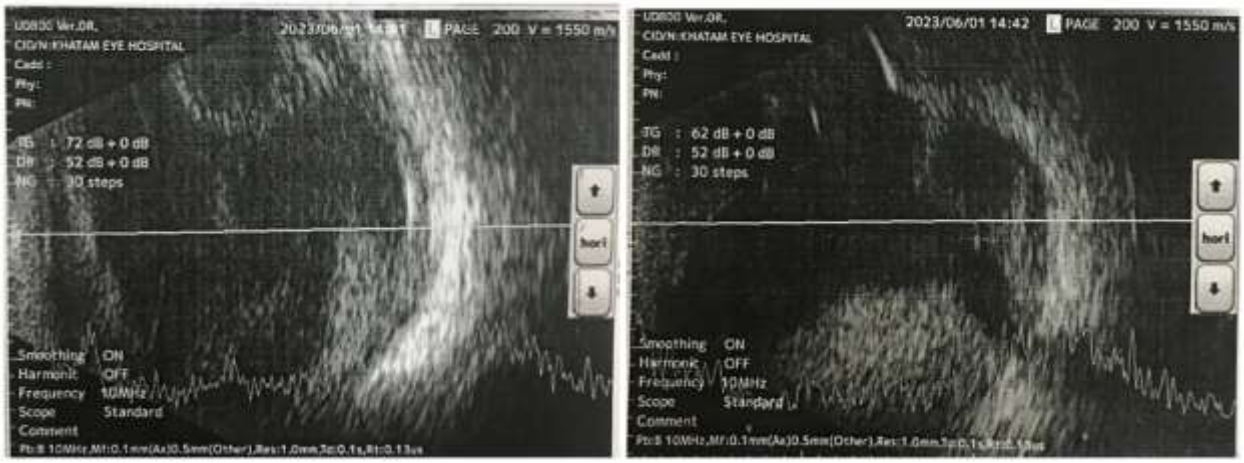

Fig. 2: One week after the surgery, B-scan ultrasonography showed a reduction of hemorrhage in the suprachoroidal space.

3- DISCUSSION

SSCH is a rare condition with poor visual outcomes (7). Risk factors predisposing to SSCH can be classified into systemic and ocular conditions. Older age, hypertension, diabetes mellitus, and arteriosclerosis are among the most common systemic predisposing factors for SSCH incidence (4). Besides, hematologic abnormalities such as blood dyscrasias, disorders affecting platelet number or function, and anticoagulation therapy are serious risk factors for SSCH (8). It seems that warfarin use is the most common cause of SSCH regardless of the International Normalized Ratio (INR) value in patients. If the etiology of SSCH is anticoagulation therapy, the preferred practice pattern is medication discontinuation. Axial myopia and open-angle glaucoma are common ocular risk factors. Furthermore, the Valsalva maneuver in patients consuming anticoagulant medications is among the most prevalent etiologies of SSCH (9).

To our knowledge, no report of massive bilateral SSCH in a child with ITP has been published. Choroidal apposition and angle-closure glaucoma are the indications for prompt surgical management. Otherwise, close observation with B-scan ultrasonography for 7 to 14 days after the initial presentation is preferred (10). Our patient was a known case of ITP with massive bilateral SSCH, choroidal apposition, and visual loss. Despite the poor visual prognosis, we decided to promptly drain the hemorrhage through four sclerotomy windows for both eyes. Other surgical procedures include radial

sclerotomies and active drainage with a guarded needle. However, no difference has been observed between these surgical methods regarding visual prognosis (10).

We started oral prednisolone (0.5 mg/Kg/day) for our patient. There is no consensus about the effectiveness of oral corticosteroid administration in patients with SSCH. An increase in von Willebrand factor (VWF) has been shown following a course of 10 days of oral prednisone (0.5 mg/Kg/day) consumption in healthy individuals (11). VWF leads to the promotion of platelet adhesion and faster stoppage of active bleeding. Also, it potentially prevents rebleeding in the postoperative period (12).

4- CONCLUSION

In this report, we introduced a child with ITP who was presented with massive bilateral SSCH. Spontaneous suprachoroidal hemorrhage is an extremely rare condition that typically occurs in advanced-age patients. Despite the anatomical recovery of the patient following suprachoroidal drainage surgery, the visual outcome still remained poor.

5- ETHICAL CONSIDERATIONS

Consent for publication was acquired from the legal guardian of the patient.

6- COMPETING INTERESTS

None.

7- SETTING

Khatam-al-Anbia Eye Hospital, Mashhad University of Medical Sciences, Mashhad, Iran.

8- FINANCIAL DISCLOSURE

The authors declare that they have no conflict of interest.

8- REFERENCES

1. Hsiao S-F, Shih M-H, Huang F-C. Spontaneous suprachoroidal hemorrhage: case report and review of the literature. Taiwan Journal of Ophthalmology. 2016; 6(1):36-41.

2. Kontou E. Management and diagnosis of subretinal and suprachoroidal haemorrhage. Acta Ophthalmologica. 2022; 100.

3. Qureshi A, Jalil A, Sousa DC, Patton N, Dhawahir-Scala F, Charles SJ, Turner G, Ivanova T. Outcomes of suprachoroidal haemorrhage drainage with and without vitrectomy: a 10-year study. Eye. 2021; 35(7):1879-85.

4. Cruz-Pimentel M, Mehraban Far P, Brent MH, Yan P. Massive Spontaneous Suprachoroidal Hemorrhage in a Patient with Type 1 Chronic Myeloid Leukemia and Lymphoplasmacytic Lymphoma: Case Report and Review of the Literature. Journal of VitreoRetinal Diseases. 2022:24741264221074799.

5. Chai F, Zeng L, Li C, Zhao X. Spontaneous suprachoroidal hemorrhage in a high myopia patient with rhegmatogenous retinal detachment: a case report and literature review. Bioscience Reports. 2019; 39(6).

6. Onisâi M, Vlădăreanu A-M, Spînu A, Găman M, Bumbea H. Idiopathic thrombocytopenic purpura (ITP)–new era for an old disease. Romanian Journal of Internal Medicine. 2019; 57(4):273-83.

7. Shan H, Wu X, Guo H. Spontaneous suprachoroidal and orbital hemorrhage in an older woman associated with prophylactic antiplatelet therapy: A case report and literature review. Heliyon. 2022; 8(11):e11511.

8. Frcs JSW. Spontaneous suprachoroidal haemorrhage in a patient receiving low-molecular-weight heparin (fraxiparine) therapy. Australian and New Zealand journal of ophthalmology. 1999; 27(6):433-4.

9. Hammam T, Madhavan C. Spontaneous suprachoroidal haemorrhage following a

valsalva manoeuvre. Eye. 2003; 17(2):261-2.

10. Ling R, Cole M, James C, Kamalarajah S, Foot B, Shaw S. Suprachoroidal haemorrhage complicating cataract surgery in the UK: epidemiology, clinical features, management, and outcomes. British Journal of Ophthalmology. 2004; 88(4):478-80.

11. Majoor CJ, Sneeboer MMS, Kievit Ad, Meijers JCM, Poll Tvd, Lutter R, Bel EH, Kamphuisen PW. The influence of corticosteroids on hemostasis in healthy subjects. Journal of Thrombosis and Haemostasis. 2016; 14(4):716-23.

12. Bernfield M, Götte M, Park PW, Reizes O, Fitzgerald ML, Lincecum J, Zako M. Functions of cell surface heparan sulfate proteoglycans. Annual review of biochemistry. 1999; 68(1):729-77.