

Trauma in a child: sad story, happy ending

Background and Purpose:

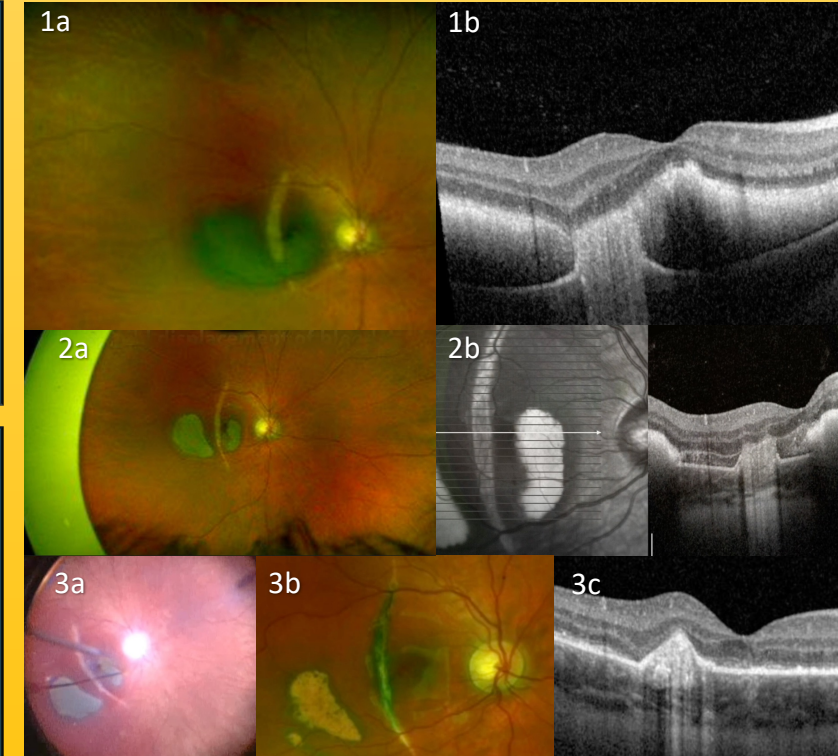
Submacular hemorrhage is a vision-threatening condition with varied causes, lacking a standardized treatment approach. Current therapies include intravitreal injections, pneumatic displacement, and surgery, each with limitations, especially in children^{1,2,3}. This report presents a two-step method, combining an initial minimally invasive intravitreal injection of tPA and SF6 with a subsequent, more invasive subretinal injection, to effectively displace SMH in a pediatric patient while minimizing surgical risk. This case highlights the potential for significant visual recovery even in seemingly dire circumstances, provided that timely, tailored, and peer consultation approaches are employed.

Case presentation:

A 13-year-old child's presented with a traumatic chorioretinal rupture with extensive submacular hemorrhage in the right eye after being punched^{1a-1b}. Initially visual acuity hand movement, UK experts suggested conservative treatment or intravitreal TPA. Opting for the latter, combined with pneumatic displacement using 0.3ml SF6 under GA, only minimal improvement was noted a week later^{2a-2b}. Subsequently, the approach shifted to include pars plana vitrectomy with submacular TPA injection and air tamponade under GA^{3a}. This led to full blood displacement from the fovea improving vision from hand movements to 6/24, and eventually to 6/9 after 1 month^{3b-3c}.

Conclusion:

This case aims to contribute to the existing literature by showcasing the successful management of a traumatic chorioretinal **rupture** in a child with substantial submacular haemorrhage, offering insights and hope for similar challenging cases in pediatric ophthalmology.



References:

1. Joseph Abbott, Peter Shah, The epidemiology and etiology of pediatric ocular trauma, Survey of Ophthalmology, Volume 58, Issue 5, 2013, ISSN 0039-6257, <https://doi.org/10.1016/j.survophthal.2012.10.007>.
2. Wyszynski RE, Grossniklaus HE, Frank KE. Indirect choroidal rupture secondary to blunt ocular trauma. A review of eight eyes. Retina. 1988;8(4):237-43. doi: 10.1097/00006982-198808040-00003. PMID: 2466317.
3. Doi S, Kimura S, Morizane Y, Shiode Y, Hosokawa M, Hirano M, Hosogi M, Fujiwara A, Miyamoto K, Shiraga F. Successful displacement of a traumatic submacular hemorrhage in a 13-year-old boy treated by vitrectomy, subretinal injection of tissue plasminogen activator and intravitreal air tamponade: a case report. BMC Ophthalmol. 2015 Aug 7;15:94. doi: 10.1186/s12886-015-0090-3. PMID: 26250101; PMCID: PMC4527187.