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WHEN TIME MATTERS: ONE SURGEON, ONE SESSION, INTEGRATED MANAGEMENT OF ZONE IIIA OPEN-GLOBE INJURY WITH INTRAOCULAR FOREIGN BODY AND ADNEXAL TRAUMA

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Significant global variation exists in the management of ocular trauma, particularly regarding access to subspecialty care, timing of primary repair, and urgency of intraocular foreign body (IOFB) removal. In open-globe injuries (OGIs) with IOFBs, timely intervention is critical, yet definitive surgery is frequently delayed until the following day. The timing of adnexal reconstruction, primary globe closure, and vitrectomy may significantly influence visual and anatomical outcomes.

We report a complex case of OGI involving zone IIIa with an IOFB and extensive adnexal trauma, managed by a vitreoretinal surgeon at the University of Debrecen, Hungary. Surgical approach, postoperative course, and visual outcomes over a five-month follow-up are presented.

On October 23, 2024 (a national holiday, in Hungary), a 39-year-old male with a CT-confirmed IOFB with a ruptured eyelid was urgently admitted. Within six hours of injury, he underwent emergent surgery under general anesthesia. The 9 mm metallic IOFB transected the lateral rectus muscle, causing two full-thickness scleral lacerations with vitreous and retinal extrusion (zone IIIa). The IOFB resulted in a massive vitreous hemorrhage and a macular tear at the temporal edge.

Primary repair, including eyelid and muscle suturing, phaco-aspiration, vitrectomy, and IOFB removal via a corneal incision, was completed in a single session by a retinal surgeon with limited oculoplastic experience. Two months later, tractional retinal detachment and a macular hole due to proliferative vitreoretinopathy (PVR) necessitated reoperation with internal limiting membrane peeling and silicone oil (2000 cSt) tamponade. At five months, the best-corrected visual acuity reached 0.20, with excellent cosmetic outcomes.

This case highlights the feasibility and success of single-session management of severe ocular trauma, including adnexal reconstruction, primary globe repair, and vitrectomy with IOFB removal, performed by a retinal surgeon. While basic oculoplastic competency sufficed for adnexal repair, advanced vitreoretinal expertise was critical to visual recovery. Early, comprehensive intervention by a skilled retina surgeon can yield favorable functional and aesthetic outcomes, even in complex zone III injuries.