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COMPLEX OCULAR TRAUMA SURGERY: IOFB REMOVAL AND CORNEAL REPAIR

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Introduction:

Penetrating ocular trauma with an intraocular foreign body (IOFB) is a severe, vision-threatening condition requiring prompt and meticulous medical intervention, especially when the IOFB is metallic. Timely surgical removal, typically through vitrectomy, is crucial to prevent severe complications such as endophthalmitis, retinal detachment, and optic atrophy. Endophthalmitis, an intraocular infection, can rapidly lead to severe vision loss or blindness if not promptly treated, while retinal detachment and optic atrophy can result from the mechanical impact of the foreign body or prolonged inflammation, respectively. Additionally, ocular traumas that significantly damage the cornea necessitate advanced surgical techniques, often involving keratoprosthesis, vitrectomy, foreign body removal, and corneal transplantation. Many complex cases are often not surgically addressed or are indicated for enucleation. It is crucial to know when surgery should be attempted, such as when there is color perception, as this shows the presence of viable photoreceptors. This presentation will detail two cases of severe ocular trauma, emphasizing the surgical approach, and highlighting the importance of a timely intervention to enable the preservation of the eye, prevent future complications, and potentially improving visual acuity.

Materials and methods:

Case 1: Trauma from Metallic Foreign Body During Grinder Operation

A patient experienced ocular trauma while operating a grinder, resulting in a corneal laceration caused by a metallic foreign body. Initial anterior segment management failed to achieve adequate suturing, leading to applying a contact lens with biological glue to seal the lesion. Upon referral and evaluation at our service, the patient presented with 4+ corneal edema, making it difficult to properly assess the fundus. However, the patient had color perception, indicating the presence of viable photoreceptors. We proposed a surgical intervention consisting of the following steps:

Removal of the lacerated cornea, Keratoprosthesis, Removal of the damaged lens, Vitrectomy, Extraction of the foreign body, and Tectonic corneal transplantation.

Case 2: Ocular Trauma from Fall During Nightmare

A second patient suffered a fall from bed during a nightmare, hitting the eye on the bedside table, which resulted in a kissing choroidal detachment and retinal incarceration. Initially, enucleation was recommended, but the patient sought a second opinion at our service. Given the presence of color perception, we opted for a surgical approach.

Results:

In both cases, the surgeries were successful and free of complications. The chosen approach not only preserved ocular anatomy and aesthetics but also improved visual acuity for both patients. Specifically: Case 1: Post-surgery, the patient's visual acuity improved to counting fingers.

Case 2: Visual acuity improved to 20/800 post-surgery.

Conclusions:

Many complex cases are often not surgically addressed or are indicated for enucleation. It is crucial to know when surgery should be attempted, such as when there is color perception, as this indicates the presence of viable photoreceptors. These outcomes demonstrate the effectiveness of the surgical interventions in enabling the preservation of the eye, preventing future complications, and potentially improving visual acuity.

Sources:

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