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Blowout Fractures Occur as Part of Zygomatic Complex Fractures or As Isolated Orbital Floor Fractures

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As Isolated Orbital Floor Fractures

- ✓ Seven bones join to form the orbit, zygoma, maxilla,palatine,ethmoidal,lacrimal, greater wing of sphenoid and frontal
- ✓ The outer rim of orbital is thick, but the Orbital floor becomes very thin p

Orbital Injuries in children

The springy orbital floor entraps periorbital tissues like a trap door and usually there is no subconjuctival haemorrage so this is called the white eye blow out

Causes

Common medical causes of blowout fracture may include:

Direct orbital blunt injury

Sports injury (squash ball, tennis ball etc.)

Motor vehicle accidents

Case report

The patient A.H 9 years ago has a motor vehicle accident.

He came to hospital and have some clinically observed signs and symptoms include:

Orbital pain, Eyes displaced posteriorly into sockets (enophthalmos) Ptosis (Eyes displaced inferiorly)

Limitation of eye movement, Tenderness and step of infraorbital rim.

Imaging

The gold standard in trauma. Is CT scan (hard-tissue window) with thin axial and coronal sections (See Figure 1) trapdoor fractures is noticed , and tear-drop sign. We can show a fluid level in the sinus and herniation of tissue

Treatment

Although the patient hasn't vertical diplopia (Seeing-double when looking up or down)

Surgical intervention required to prevent ptosis and Enophthalmos

And it was absolute indications due to the muscle entrapment and the patient was young

And for cosmotic purposes

Initial management

After the identification and treatment of life-threatening injuries. The patients follow-up with an ophthalmologist within 1 week of the fracture. , Then orbital fractures can be appropriately diagnosed and repaired. The patient was given Oral steroids and it can be speed the resolution of orbital edema and facilitate the surgical decision-making process. Prophylactic antibiotics are suggested if the wound is contaminated, Nasal decongestants are used.

Surgery

Surgical repair of a "blowout" was safely postponed for up to two weeks,to let the swelling subside.

The purpose of surgery is to restore the orbit to its original status before injury

Surgery is indicated because there is enophthalmos greater than 2 mm on imaging, and the fracture involves greater than 2 % of the orbital floor.

Approach

A 4_0 silk sutures was passed upper and lower lids to keep the lids away from surgical site and protect the oculi. Transcutaneous incision was divided by vertical level of eyelid skin incision through infraorbital orbital incision.

Then Periosteal incision Is made 2 mm below rim

Periosteum is dissected off the underlying bone, and the dissection continued onto the orbital floor, with gentle retraction of the orbital contents using the retractors. The site of the fracture is identified and the

margins carefully exposed, The prolapsed orbital contents are lifted out of the fracture site by gentle pull on the tissues. The bone fragment was removed from sinus and fixed to titanium mish by two screw.

Under adequate retraction of the intraorbital soft tissues the mesh has to be positioned so that proper and stable recontouring of the orbital walls results. Care has to be taken that neither orbital fat nor muscles are entrapped the mesh was extend over the orbital rim.

It is placed over the fracture site, ensuring that all margins are covered, and that no tissue is allowed to herniate from the orbit again. we used 2 screw to fixation the mesh with bone fragment and another two screws to fix the mish with orbital bone. The screw size has to match the chosen mesh type.

Reconstruction is usually performed with a titanium mesh to recreate and support floor of orbit and support the orbital soft tissue and prevent recurrent herniation. The edges of the periosteum are identified over the inferior orbital margin and closed with interrupted 6-0 vicryl sutures. The skin incision is closed with two interrupted 6-0 vicryl sutures.

Postoperative

Eye observations

Nurse at 45°

No nose blowing

Antibintics / steroids

Ophthalmic review

Removal of sutures after 5 _6 days postoperatively

Assess the eye position was almost normal and very acceptable

No diplopia

No visible scars in the region of operative

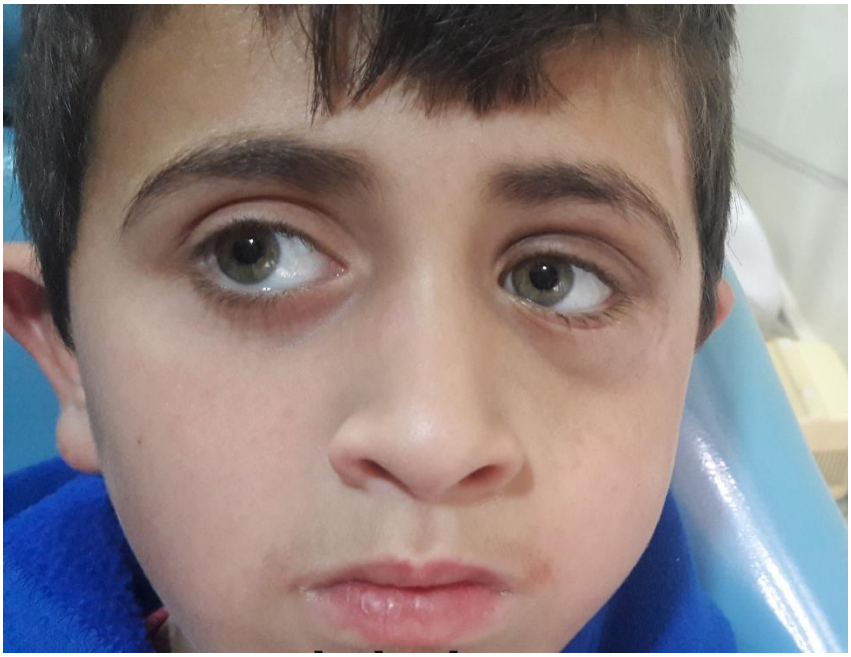
Generally, orbital implant removal is not necessary except in the event of infection or exposure.

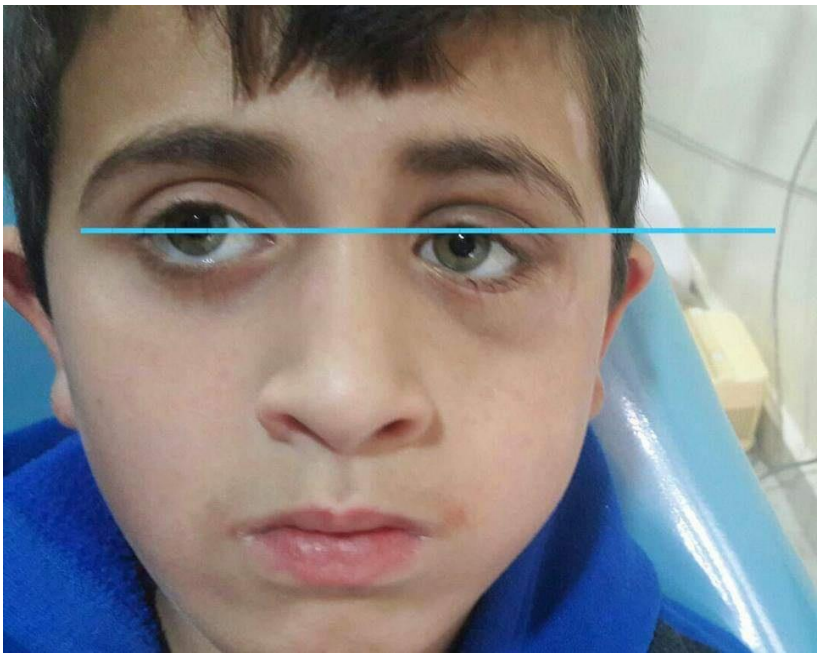
The majority of cases require reconstruction of the orbital floor to support the globe position and restore the shape of the orbit.

Orbital floor fractures can result in severe aesthetic and functional complications if inappropriately managed.

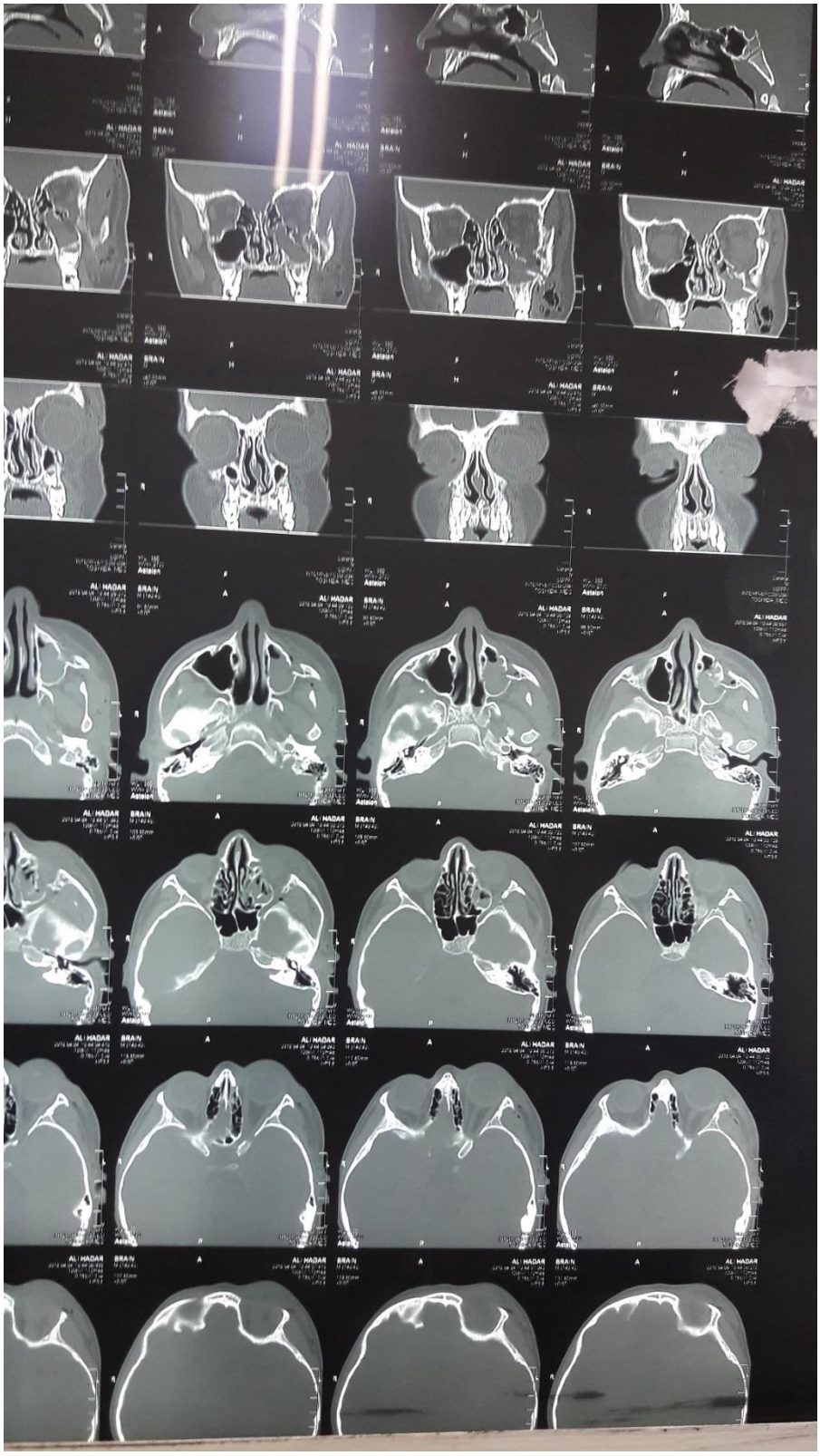
Repair of an orbital floor fracture, has many advantages, including simplicity of the technique, excellent structural support, shorter operative time, and cost effectiveness. Our patient did very well, and regained her extraocular movements to fully norma

And the final photo of him was sent after 2 years of surgery and no scar and acceptable comotic view

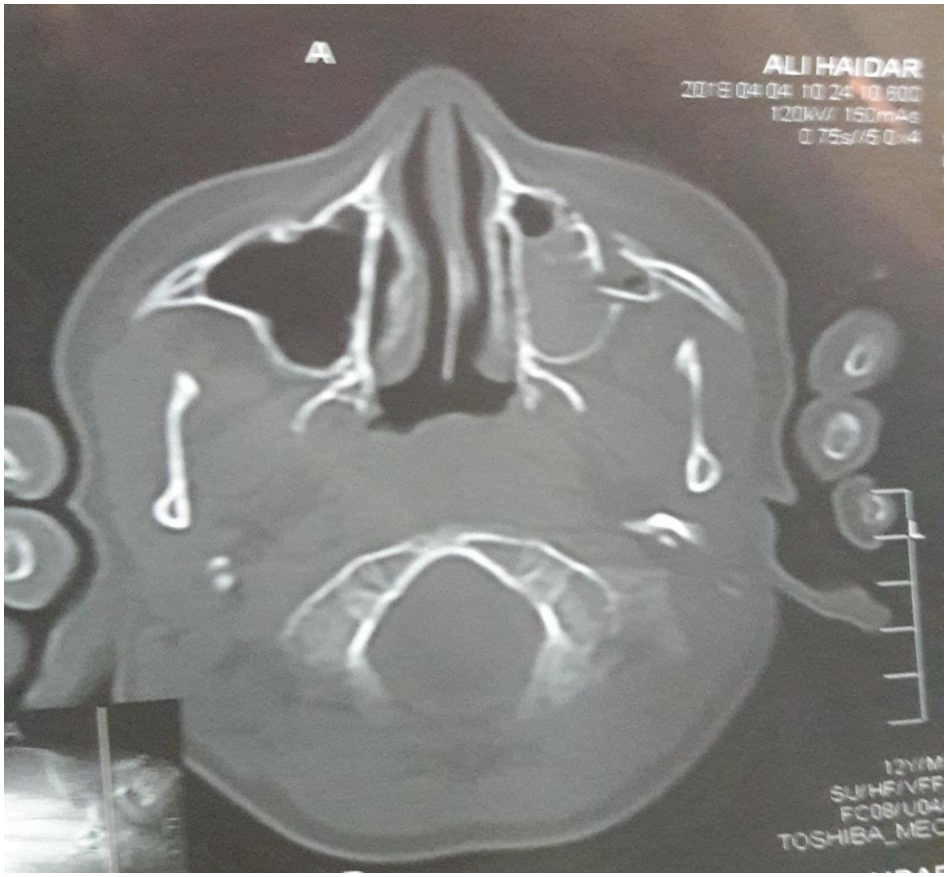




This photo shows ptosis



The CT scan shows infraorbital fracture in axial and coronal suction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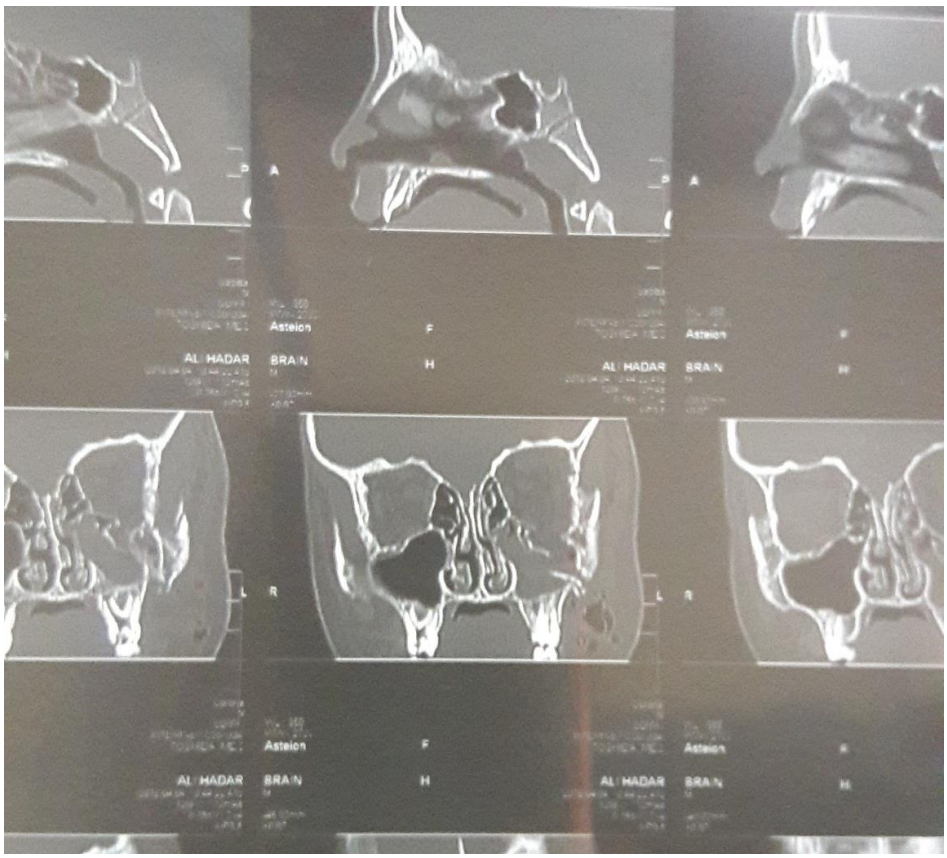
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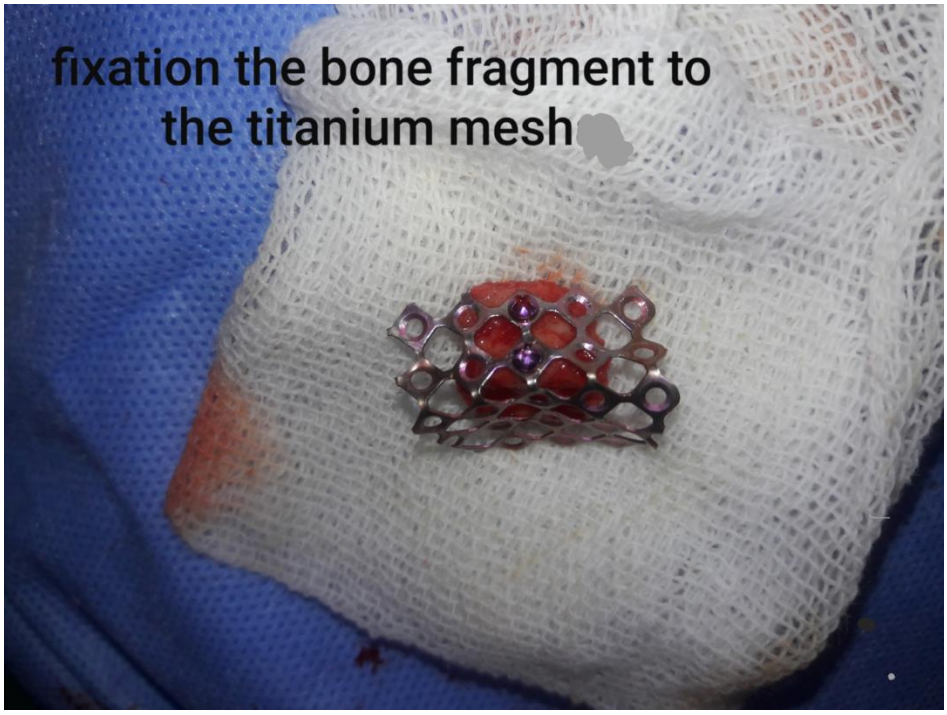
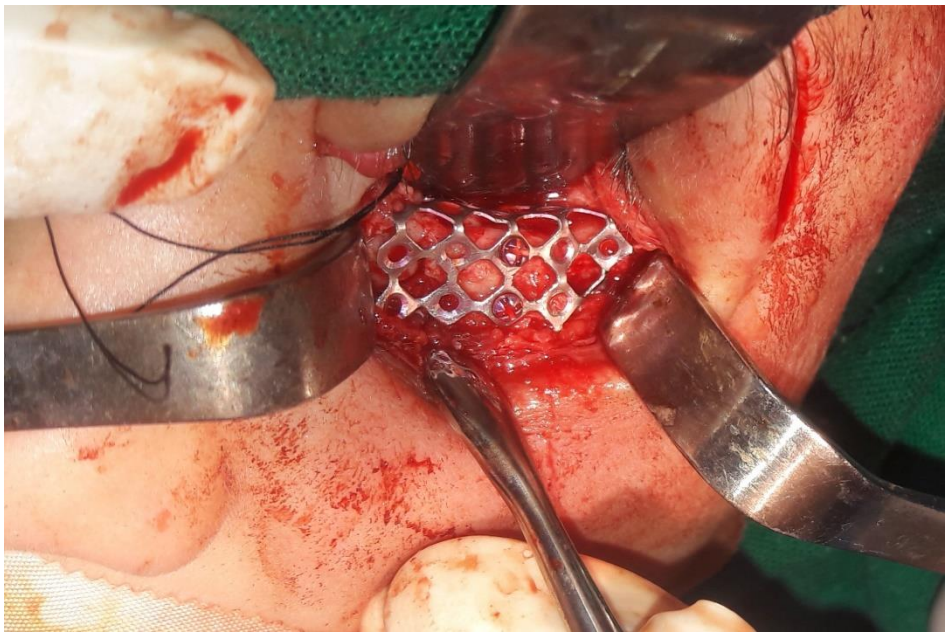
BRAIN

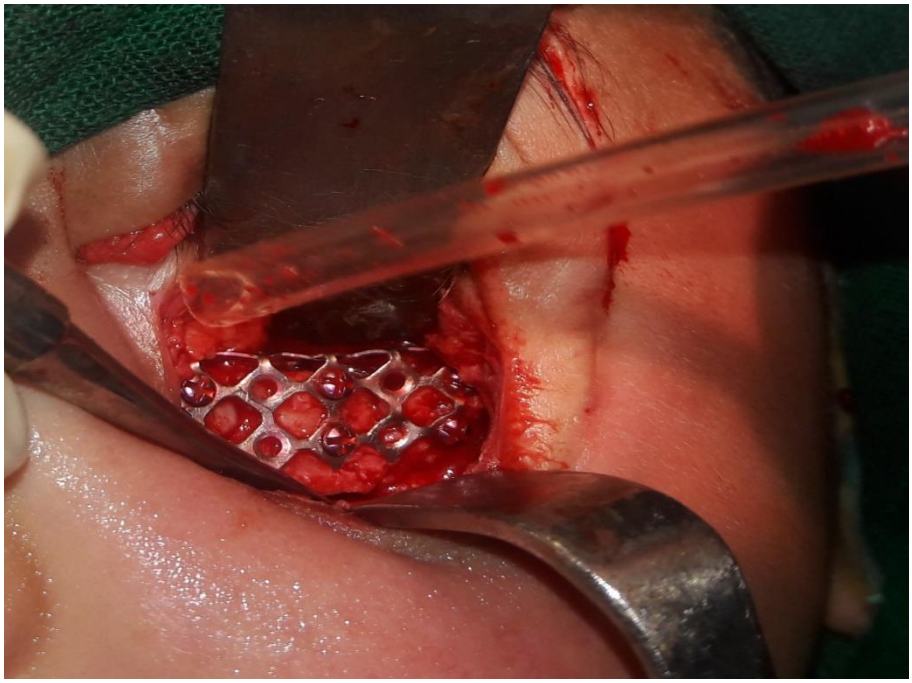
The desction of orbicularis oculi

The bone defect in infraoral orbital wall and infraorbital rim



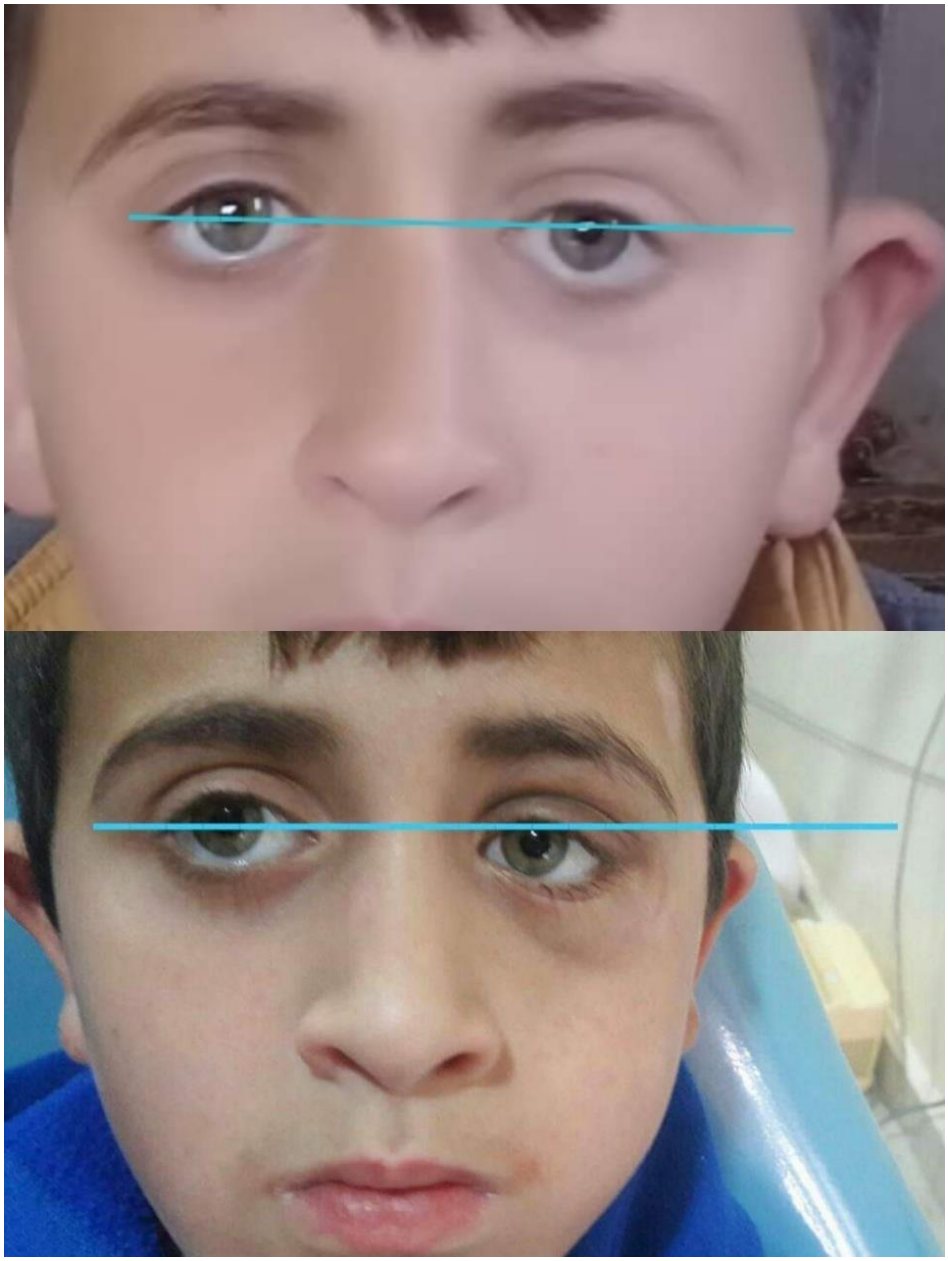


Repositioning of the fracture fragment Repositioning of the fracture fragment



Fixation the mesh to the bone

After two years of treatment



Before and after treatment

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19. "Blowout fracture of the orbit: mechanism and correction of internal orbital fracture. By Byron Smith and William F. Regan, Jr". Adv Ophthalmic Plast Reconstr Surg. 6: 197–205. 1987. PMID 3331936. pure orbital blowout fractures, the orbital rim (the most anterior bony margin of the orbit) is preserved, while with impure fractures, the orbital rim is also injured. With the trapdoor variant, there is a high frequency of extra-ocular muscle entrapment, despite minimal signs of external trauma, a phenomenon referred to as a 'white-eyed' orbital blowout fracture.[2] They can occur with other injuries such as transfacial Le Fort fractures or zygomaticomaxillary complex fractures