Most of our patients suffered from diplopia (80% of cases), an enophthalmia was found in 20% of cases (figure 2), no case of infraorbital hypoesthesia OR OCULOCARDIAC REFLEX was found.

Figure 2. Preoperative image showing a left enophthalmia.
A facial CT scan was done for all our patients which determined the fracture type and helped to choose the right surgical approach. (figure 3)

Figure 3. CT scan image objectifying a left trap door fracture.
An ophthalmological examination was done for all our patients (to eliminate an emergency such an orbital compartment syndrome) and those who suffered from diplopia benefited from a LANCASTER TEST.

All our patients have undergone surgical treatment with 2 surgical approaches:Subciliary approach for 17 patients and transconjunctival technique for 3 patients.

The operating date ranged from 5 hours to 10 days, the surgical treatment consisted on a removing of the fat and the muscle and reconstruction of the orbital floor.

The reconstruction choice varied between an autologous transplant in 4 cases (figure 4) and a vicryl plate in 16 cases. The post operative evolution was good in 17 cases. In 2 cases we had a persistence of the diplopia and an ectropion was found in only 1 case.

**Figure 4. Autologus grat taken from the iliac crest.**

**Discussion**

In our study the average age was 25 years and 90% of our patients were men; Juan marcelo found that 72% of cases were male with the mean age of 32 years; rodriguez also reported a mean age of 33 years, so the orbital floor fractures occur more commonly among adults and adolescent males.

In our study most patients were victims of an agression (80% of case), same results were found in rodriguez study who reports that aggression was the leading cause of orbital floor fractures.

CRUZ in argentina reported that most cases of an orbital floor fractures were caused by traffic accidents.

An orbital floor fracture may be responsible for a diplopia, it may cause the incarceration of the lower right muscle and / or the fat that surrounds the muscle which limits the normal rise of the eye. This is going to be responsible for a difference of elevation of the gaze (vertical diplopia and limitation of the elevation of the gaze).

A large and collapsed fracture of the floor of the orbit may cause an enophthalmia. Indeed, when the floor is collapsed, the orbital cavity becomes too big for the eye. This complication is most often masked initially by edema related to the trauma.

An orbital floor fracture can cause the compression of the infra-orbital nerve. This is responsible for disorders of the sensitivity of the cheek, the lateral part of the nose, the upper lip and the upper teeth. These disorders generally regress in a few weeks to a few months.

Classic Blondeau X-ray imaging probably has no place. It must however be known and remains useful in the absence of CT scan availability.

CT scan is preferred because of faster acquisition times, superior imaging of the bony structures, cost effectiveness and identification of foreign bodies.

In our study two approaches were used: sub-ciliary in 57% of cases and the tranconjunctival approach in 43% of cases. Stuck fat and muscle were removed in order to restore normal eye mobility.

The subciliary incision was preferred in our study because it gives a good access to the floor and gives camouflage to the scar, however most authors do prefer the transconjunctival approach because it gives no visible scars and it has the lowest incidence of complications but this technique could lead to corneal abrasion and lack of exposure if a lateral canthotomy is not performed.

![Figure 5. Graph showing the percentage of use of the two surgical approaches.](image)

In our study the reconstruction was done by an autologous transplant taken from the iliac crest in 4 cases and a plate in 16 cases; several choices exist for reconstructing falling into 2 categories: autologous Graft and alloplastic materials.

Autologous graft are highly biocompatible with a low risk of infection and extrusion nevertheless they are associated with increased intra operative time and donor site morbidity, plus they have an important rate of resorption which may lead to an unpredictable orbital volume.

There is a wide range of alloplastic material, they are cost effective, easily conformed to the orbital contour, their downsides are the high risk of infection, extrusion, foreign body reaction and capsular hemorrhage.

**Conclusion**

Isolated fractures of the floor of the orbit respond to a very precise mechanism of direct eye impact, they are confirmed by an orbital CT scan and the rapid management helps avoid the after effects.

**REFERENCES**


