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RECONSTRUCTION OF ORBITAL FRACTURES

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ABSTRACT

Objectives: fractures of the orbital walls can occur in isolation or association with other facial fractures. The article evaluates the use of titanium micromesh and plate in orbital reconstruction after traumatic injury.

Material and methods: 13 patients with orbital fractures were included in the study; clinical and radiographic examination including C.T. scan were performed for all patients. Early repair was the policy to treat those patients. Rim fractures were stabilized by titanium microplating system while wall defects were reconstructed using titanium micromesh.

Results: Normal eye function without diplopia or restricted motility was noted in 11 patients. Normal globe position was seen in 12 patients while enophthalmos persisted in one patient.

Conclusion: Titanium micromesh and plate system proved to be good alternative to other alloplastics or grafts in orbital reconstruction.

INTRODUCTION

Trauma to the face frequently results in orbital fractures which may range from a small isolated "blow out" fracture to major destruction of the entire orbit. This fact implies a wide array of management, the least being clinical observation up to complete orbital reconstruction. [1-3]

Many studies have emphasized the importance of accurate anatomic reconstruction of both bony orbital volume and shape to achieve normal eye position and function following injury [4-6]. It is now thought that inadequate initial reconstruction of orbital volume (rather than fat atrophy) is one of the most important reasons for unsatisfactory eye position postoperatively [7-10]. A rather complicating factor in complex orbital management is the disparity between the globe volume which is 7 c.c. to the orbital bony volume of 30c.c. [10].

The use of rigid fixation with titanium mini and microplates and meshes is now introduced to the field of orbital reconstruction. Plates are thought to provide better stability than traditional wire fixation [11]. Micromeshes are also beneficial in building up the fragile bony orbit around the eye and its adnexae [10].

This article addresses the use of these devices in management of orbital fractures. Special emphasis is placed on the utilization of micromeshes and plates in orbital reconstruction.

Anatomic consideration:

The orbit is composed of seven bones: Frontal, maxilla, zygoma, palatine, lacrimal, ethmoid and sphenoid. The optic canal housed within the lesser wing of the sphenoid, transmits the optic nerve and the ophthalmic artery. It is located about 40-45 mm posterior to the inferior orbital rim. The anterior ethmoidal artery enters the medial wall about

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