Management of Medial Orbital Wall Fractures and Literature Review

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NOTHING TO DISCLOSE
INTRODUCTION

✧ Incidence
  ❇ a subset of orbital Fx. (13.3% of all facial bone Fx.)
  ❇ Isolated medial wall: 0%-55%.
  ❇ Combined orbital floor: 10% to 84%.

✧ Important cause of posttraumatic enophthalmos

✧ Indications: large defects, early or persistent enophthalmos, diplopia and rectus muscle entrapment.

✧ PRS 1999;103:1839-1849
✧ PRS 1997;100:1409-1417
✧ Orbit 2005;24:1-9
✧ J Craniomaxillofac Trauma 1998;4:7-12
✧ Laryngoscope 2002;112:986-989
✧ Curr Opin Ophthalmol 2003;14:236-240
The purpose of this article

- Review the outcomes of the medial orbital wall Fx. pts
- Review the recommendations in the current literature
- To establish our current approach and treatment protocols
MATERIALS AND METHODS

19 patients Dx, Tx surgically with orbital medial wall fracture from 2010 Oct. to 2013 Oct. in KMUH(of 1700 cases s/p ORIF)

The medical records and CT were reviewed

Analysis

◦ Age, sex, cause of injury, associated ocular injury, operation approach, inserted material, diplopia, EOM limitation, enophthalmos, complications, and sequela.
Transconjunctival with caruncular extension
Transconjunctival with caruncular extension
Traction suture
Transconjunctival with caruncular extension
Conjunctival incision


Transconjunctival with caruncular extension
Caruncular extension through the avascular plane
Transconjunctival with caruncular extension.
Wide exposure of entire fracture site.
Transconjunctival with caruncular extension
Medpor® placed
Transconjunctival with caruncular extension
Suture peristium with 4-0 vicryl
Conjuctiva wound repair with 7-0 vicryl.
## DISCUSSION

<table>
<thead>
<tr>
<th>Pathophysiologic</th>
<th>Indication</th>
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<tr>
<td>Impair medial rectus muscle function.</td>
<td>Medial rectus entrapment on CT scan or PE <em>(ref.1-4)</em></td>
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<tr>
<td>Change in orbital volume</td>
<td>Enophthalmos &gt; 2 mm, persistent diplopia beyond 2 weeks from injury <em>(ref.1-4)</em></td>
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<td>Other</td>
<td>Large defects &gt; 50% or &gt; 2 cm <em>(ref.2)</em></td>
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<td>Fat and soft tissue displacement</td>
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DISCUSSION

Our overall operation complications: 5.2%

Most studies report an operation complication rate ranging from 0% to 10%

Reviewed all studies on the transcaruncular approach

- 11 studies, 288 patients included.
- Incidence of complication 2.6%(n = 6)
- 1.3%(n=3): minor complications
- 1.3%(n=3): require a procedure

PRS 1999;103:1839-1849

J Craniofac Surg 2012;23: 696-701
Medial wall fracture

Combined with other Fracture?

yes

Concurrent fixation

Operation

transconjunctival with caruncular extension

no

isolated

Wait 2 weeks

entrapped medial rectus muscle?

yes

Operation

Conservative treatment

no

Enophthalmos > 2 mm, persistent diplopia? yes

no
Take home message

**Medial rectus entrapment** on CT scan or PE need operative intervention ASAP

**Transconjunctival approach with caruncular extension**: satisfying functional and cosmetic results

**Porous Polyethylene Sheet (Medpor)** is suitable material with favorable results