An Update on Orbital Decompression

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No Conflicts or Bias
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Overview

- Step One: Identify the Problem
- Step Two: Design a Solution
- Step Three: Plan for implementation
- Step Four: Execute the Plan
- Step Five: Manage Complications
- Step Six: Touch Ups
Step One: Identify the Problem

- Optic Neuropathy → Target the Optic Nerve
- Exposure → Reduce proptosis and retraction
- Diplopia → Adjust approach
Rundle’s Curve

- Ideally, wait to operate until stable
- May need urgent decompression if optic neuropathy present

Disease Time Course and Intervention Strategy

- Active Phase
  - Emergency decompression / eyelid surgery
- Stable Phase
  - Untreated
  - Corrective surgeries
  - Effectively Treated

Years

Disease Severity
Step Two: Design a Solution

- Customized orbital decompression is a necessity
- For Discussion purposes, we will consider the following categories for Graves’ Disease
  - Small
  - Medium
  - Large
  - Extra Large (lateral wall advancement and strut removal)
  - Optic Nerve-Focused
- Cosmetic Decompression
  - Small and Small plus
- Lower Eyelid Retraction / Negative Vector
  - Small
  - Tarsorrhaphy and midface support are key adjuncts
Step Three: Plan for Implementation

- Setting Expectations is Key
- Staged Surgery in most cases
- Coordinate with co-surgeons
- Three-Dimensional Operative Planning with Navigation in some cases
- Imaging on most patients
Step Four: Execute the Plan

- Small
  - Fat only decompression
- Small Plus
  - Fat and lateral wall + basin
- Medium
  - Fat plus lateral and medial wall (balanced decompression)
- Large
  - Fat plus Deep lateral Wall +/- Floor and posterior strut
- Extra Large
  - Fat plus deep lateral wall removal, lateral wall advancement, sub-total or total strut removal, complete medial wall (ENT-assisted)
Small Decompression

- Transconjunctival Approach to the Inferolateral Orbit
- Suction-assisted Fat Decompression
  - Orbital “Vitrectomy”
Small “Plus”

- Transconjunctival approach to inferolateral orbit
- Suction-assisted Fat Decompression
- Boney Decompression of “Basin”
Medium Decompression

- Lid Crease Approach to lateral orbit
  - Bone Removal
- Trans Caruncular Approach to Medial Orbit
  - Bone Removal
- Suction-assisted Fat Decompression
Target Zones
Large Decompression

- Balanced Decompression
- Floor Removal
- Anterior and Mid Strut Kept Intact
- Suction-assisted Fat Decompression
Target Zones
Large Decompression on the right, Medium on the Left
Extra Large Decompression

- Deep Lateral Wall Approach
- Lateral Rim Advancement
- Deep Medial Wall Approach (ENT Assisted)
- Suction-assisted Fat Decompression
Step Five: Manage Complications

- Lateral or posterior CSF Leaks can be managed conservatively in many cases
- Medial CSF Leaks (persistent rhinorrhea) may require surgical intervention/neurosurgical consultation
- Restrictive Strabismus
- New Diplopia from Globe Malposition
- Incomplete Decompression with persistent exophthalmos, cosmetic deformity, optic nerve compromise, or exposure
Incomplete Decompression is a Complication

- Subsequent decompression is often more difficult, less powerful
- Diplopia is correctable in the vast majority of cases
- Rate of diplopia is low in most described techniques
Step 6: Touch Ups

- I tell every patient that they will need “eyelid touch ups”
- This is most commonly ptosis repair or eyelid retraction repair
- Lateral Tarsorrhaphy is very effective when correcting retraction
Expanding Indications

- Graves' Disease (Obvious)
- Cosmetic Exophthalmos
- Negative vector lower eyelid retraction
Conclusions

- Identify the Problem
- Treat the Problem
- Do not undertreat
  - Under-treatment is a complication
- Patient preparation is key
- These can be among our most grateful patients