ORBITAL SURGICAL TECHNIQUES

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ADVANCES IN ORBITAL SURGERY

- New techniques have been combined with older well known surgical approaches
- There are trends and advantages towards more aesthetic incisions
- Orbital imaging can localize lesions
- Deep lesions can be approached via anterior approaches
THE SURGICAL APPROACH

1. Anterior or deep tumors
2. Relation to the optic nerve
3. The surgical space involved
4. The goal of the biopsy
   - Excisional
   - Incisional
Keep incisions aesthetically hidden whenever possible.
**IS THE MASS ANTERIOR OR DEEP?**

- Anterior-posterior position of the mass is in the orbit is most important
- The equator of the globe is the key junction

- Anterior masses - use the FRONT DOOR – anterior approaches
- Posterior masses – GO DEEP – advanced techniques
WHAT ABOUT THE OPTIC NERVE?

- ALWAYS choose the approach that does not cross the optic nerve

- Deep tumors lateral to optic nerve
  - LATERAL orbitotomy

- Deep tumors medial to optic nerve
  - Medial orbitotomy – EYELID or Conjunctiva
Surgical Approaches to the Orbit

Anterior to the equator of the eye
Posterior to the globe and lateral to the nerve
Posterior to the globe and medial to the nerve
Posterior one third of orbit, optic canal, chiasm

Anterior orbitotomy
Lateral orbitotomy
Deep medial anterior orbitotomy
Transcranial orbitotomy
THE SURGICAL SPACE

- Extraorbital tissues (brain, nose, sinuses, skin)
- Tenon's space
- Extraconal space
- Extraocular muscles
- Intracanal space
- Subperiosteal space
THE TYPE BIOPSY

- Excisional
- Incisional
BE FLEXIBLE

- Be able to modify your surgical plan intraoperatively
ANTERIOR ORBITAL APPROACHES
Anterior orbitotomy preferable whenever possible

- Avoid bone removal
- Faster
- Less morbidity
LOWER ANTERIOR ORBITOTOMY
DEEP SURGICAL APPROACHES
MEDIAL LESIONS

- Transconjunctival medial anterior orbitotomy
- Vertical upper lid split anterior orbitotomy
- Upper eyelid skin crease medial anterior orbitotomy
- Transcaruncular anterior orbitotomy
- Transcutaneous frontoethmoidal anterior orbitotomy
- Transnasal endoscopic access to apex
MEDIAL LESIONS

- Transconjunctival orbitotomy
- Vertical lid split
TRANSCONJUNCTIVAL APPROACH

- ONSF
- Optic nerve incisional biopsies
- Medial intraconal biopsies
- Inferomedial orbital decompression
TRANS Conjunctival Approach
Advantages
- Minimal intraorbital dissection
- Avoid large cutaneous scars
- Can directly approach the lesion
- Safer “medial nerve fibres”

Disadvantages
- Tight oblique view of nerve
- Disinsertion of medial rectus
VERTICAL UPPER LID SPLIT

- Deeper areas of the extraconal and intraconal spaces
- To reach beyond the equator
Advantages

- Excellent scar camouflage
- Maintain lid height and contour
- Superior orbit, medial to optic nerve
  - peripheral
  - intraconal

Disadvantages

- Difficult to reach lesion located in the medial posterior 1/3 of the orbit
- Potential ptosis
DEEP LATERAL LESIONS

- Lateral orbitotomy
  - With or without bone removal
LATERAL ORBITOTOMY

- Excellent scar camouflage
- Option of bone removal or not
- Good access to large deep lesions
THE TRADITIONAL WAY

Traditional Lateral Orbitotomy

- incision disfiguring
- Facial nerve at risk
ANTERIOR APPROACH WITH BONE REMOVAL
USING CRYOPROBE TO REMOVE TUMOR
POST-OPERATIVE RESULT
Schwannoma Grade I
SMALL LATERAL ORBITOTOMY
SMALL LATERAL CANTHOTOMY
WITHOUT BONE REMOVAL
REMOVAL OF TUMOR
VERY SMALL CLOSURE
ORBITAL APEX

- Transcranial orbitotomy
ORBITAL TECHNIQUES

- “SOFT” approach to orbital surgery
  - Systematic
  - Organized
  - Flexible
  - Technique