COMPLICATIONS IN ENDOSCOPIC SINUS SURGERY

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Disclosures

None
Complications in ESS

- Complications happen
- Full informed consent preoperatively
- Surgeon needs to be able to:
  - Avoid
  - Recognize
  - Treat to resolve or minimize morbidity
- Full disclosure to patient postoperatively
- Litigation can be avoided by informed consent and addressing complication
TYPES OF COMPLICATIONS

- **Unexpected**
  - Result of inadvertent injury to normal structures

- **Preventable**
  - Result of poor patient selection, inappropriate surgery, or poor technique
Unexpected Complications

- **Hemorrhage**
  - Anterior ethmoid artery
  - Sphenopalatine artery
  - Internal Carotid artery

- **Orbital violation**
  - Orbital fat exposure
  - Preseptal hemorrhage
  - Orbital hematoma
  - Extraocular muscle injury, entrapment

- **Skull Base injury**
  - CSF leak
  - Pneumoencephalus
  - Meningoencephalocele
Hemorrhage
Anterior ethmoid artery

In skull base
Mesentary in ethmoids
ICA Injury
What to Do

- Pray
- Immediate nasal packing to tamponade bleeding
- Maintain adequate blood pressure
- Emergent transport to interventional neuroradiology for arteriogram and embolization of the ICA
- ICU monitoring for evidence of stroke
Orbital Complications
Orbital Injury
Preoperative Assessment
Orbital Violation
Preoperative Assessment
Orbital Violation
Preseptal hemorrhage
Orbital Hematoma
Orbital Hematoma
Lateral Canthotomy and Cantholysis
Orbital Hematoma
Lateral Canthotomy and Cantholysis
Endoscopic Orbital Decompression
Orbital Hemorrhage
Medical management

- Mannitol 20%, 2 g/kg over 20 minutes
- Acetozolamide 500 mg bolus
- Timolol- 1 drop
- Iopidine (apractolidonidine, alpha-2 antagonist- 1 drop
Orbital Subperiosteal Abscess after Irrigation of Frontal Sinus
Medial Rectus Muscle Injury

- Violation of periorbita and orbital fat
- Likely a microdebrider injury
- Mechanism
  - Take bite out of muscle
  - Impale medial rectus muscle directly or by fragment of bone
  - Fibrosis of muscle
Extraocular Muscle Injury
Extraocular Muscle Injury
Forced Duction Test
Tips to Prevent Extraocular Muscle Injury

- If lamina papyracea exposed or injured do not manipulate further
- Do not manipulate orbital fat
- When using the microdebrider point the open part of the blade away from the lamina papyracea
- Do not penetrate the maxillary sinus ostium until an opening can be visualized