Sialendoscopy for Obstructive Salivary Gland Disorders

Jolie Chang, MD
Assistant Professor
Department of Otolaryngology, Head and Neck Surgery
University of California, San Francisco
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Disclosures
- None

Outline
- Technique
- Benefits
- Stones
- Stenoses
- Complications
- Future directions

Salivary Obstruction
- Symptoms
- Stones
- Stenoses
- Traditional management
  - Conservative
  - Dilation, transoral excision
  - Sialadenectomy
Sialendoscopy

- Endoscopic visualization of the salivary duct
  - Gundlach et al. HNO. 1990
  - Marchal et al. NEMJ. 1999.
  - Diagnostic and therapeutic
  - Spares the salivary glands

The salivary gland recovers

- Submandibular glands removed for sialolithiasis have normal histology. (Marchal et al 2001)
- After stone removal, salivary function improves. (Makdissi et al. 2004)

Equipment

- Sialendoscope:
  - 0.75mm fiber
  - Diagnostic sheath
  - Therapeutic sheath
- Salivary Duct Dilators (0000 to 6)
- Wire baskets, balloon
- Forceps
- Laser fiber

Technique

- General anesthesia
- Papilla - serial dilation
  - Wharton’s duct papilla is narrow
- Limited distal sialodochotomy
  - Papillotomy risks stenosis
- Introduce sialendoscope
  - Saline irrigation
Stones – Tools for Management

- Basket
- Laser
- Forceps
- Endoscopic drill
- Combined approach

Combined Approach

- Stone size & location
- Sialendoscope to localize
- Submandibular
  - Posterior sialodochotomy over palpable stone
- Parotid
  - Papilla dilation or dochotomy to release distal stones
  - Transfacial approach for impacted proximal stones

Submandibular stone - Combined


Posterior sialodochotomy

**Challenges**

- **Dilation of Wharton’s duct papilla**
  - Rate-limiting step
  - Dilation over guide wire (Chossegros et al. 2006)
- **Limited distal sialodochotomy**
  (Chang JL, Eisele DW. Laryngoscope. 2012)

**Stones – treatment algorithm**

- Small, mobile stones
  - Basket retrieval
- Larger stones
  - Interventional sialendoscopy
    - Laser lithotripsy
    - Forceps
    - Combined approach
- Examine duct after stone removal
  - Ensure patency
  - Check for residual stones or fragments

**Outcomes for Stone Removal**

- **Sialendoscopy**
  - successful visualization in 90-98%
- **Stone removal depends on size**
  - 75% stones removed; 30% required 2nd procedure (Marchal et al. 2000)
  - < 5mm stones - complete removal in 92%
    (Iro et al. 2009)
- **Combined approach is helpful**
  - SMG stones 93% success; Parotid stones
    91% (Iro et al. 2009)
  - Only 2-4% require gland removal
Salivary Duct Stenosis

- Koch M et al. Oto HNS 2005
  - Sialendoscopy in 103 cases with negative U/S
  - 33% with stones
  - 56% with stenoses
- Causes of stenosis
  - Iatrogenic: prior surgery
  - Inflammatory: autoimmune, XRT, RAI

Stenosis Management

- Diagnosis
  - Sialography
  - Sialendoscopy
- Treatment:
  - Dilation: Hydraulic, balloon
  - Stents, steroids
  - Sialodochotomy
  - Combined Approach: Excision, Vein graft
  - Sialadenectomy

Radioiodine Sialadenitis

- I131
  - Persistent chronic sialadenitis in up to 60%
  - 30% refractory to conservative management
- Series 11 patients: 18 parotid, 5 SMG
  - Failed conservative measures
- Sialendoscopy
  - Pale mucosa, thick debris, stenoses
  - Hydraulic dilation with saline irrigation
- Results
  - 91% reported improvement in symptoms
  - 54% complete resolution with sustained benefit at 18 months

Recurrent Juvenile Parotitis

- Recurrent parotid inflammation
  - Weeks-months between episodes
  - Unknown cause; can resolve in puberty
- Treatment
  - Conservative
  - Parotidectomy
  - Duct Sclerosis
  - Sialendoscopy: 83% with improvement at 22 months (Rosbe K et al. 2013)
Postop Care and Complications

- Postoperative care
  - Hydration, massage, abtx
- Duct perforation
- Infection
- Wire basket/instrument impaction
- Temporary lingual nerve injury (0.4%)
- Ranula formation (2.5%)
- Duct stricture (2.5%)
  - Worse with papillotomy

New Directions: Lithotripsy

- Extra Corporeal Shockwave Lithotripsy
- Chemical Lithotripsy

Conclusions - Sialendoscopy

- Minimally invasive & effective tool
- Diagnostic and therapeutic
- Treatment of sialolithiasis and stenosis
- Reduced need for sialadenectomy