Laryngopharyngeal Reflux: Prospective Cohort Study Evaluating Optimal Dose of Proton-Pump Inhibitor Therapy and Pretherapy Predictors of Response

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Introduction

- GERD to cause laryngeal S/S
  - Atypical reflux
  - Reflux laryngitis
  - Larygopharyngeal reflux (LPR)
- 4 – 10 % ENT patients
- Common symptom:
  - Hoarseness, sore throat, throat clearing, chronic cough, dysphagia, post nasal drip
Introduction

- Laryngeal sign:
  - Edema or erythema of larynx
  - Cobblestone of post pharynx
  - Inter-arytenoid changes
  - Granuloma
  - Vocal fold lesion
  - Contact ulcers
Method

- Population: from 1998 to 2004
  - R/O: medical treatment of GERD, post-op
  - R/I: chronic symptoms and laryngeal signs

- Protocol
  - Questionnaire
  - Symptom diary: same scoring system
  - Baseline study: laryngoscopy, UGI PES, esoph. manometry, pH monitor,
Method

- 3 groups
  - Lansoprazole 30 mg BID
  - Omeprazole 20mg BID + H2RA
  - Esomeprazole 40 mg QD
Result

- Total 85 patients (median 49 y)
- Presenting symptom
  - Throat clearing: 84%
  - Hoarseness: 80%
  - Sore throat: 71%
  - Globus sensation: 50%
  - Dysphagia: 45%
  - GERD: heartburn 65%, regurgitation 55%,
Result

- Esophageal manometry
  - 82 in 85 pts: 27 abnormality
  - 10 hypotensive lower esophageal sphincter
  - 20 hypotensive upper esophageal sphincter
  - Same prevalence in 3 groups
Result

- 24 hr pH monitoring
- 78 of 85 patients
  - 28 pts ↑total distal esoph acid exposure
  - 20 pts ↑total prox esoph acid exposure
  - Total 33 pts abnormal pH monitoring
  - No difference in 3 groups
Result

- **Response:**
  - BID: 15/30 (50%)
  - BID + H2RA: 15/30 (50%)
  - QD: 7/25 (28%)

![Graph showing response rates](image)

Fig. 2. Symptomatic response after 8 weeks of therapy. *Response at 2 months after dose increased from once-daily (QD) proton-pump inhibitor (PPI) to twice-daily (BID) PPI. H2RA = H2 receptor antagonist.*
Result

- QD -> BID for 8 wk : 7/13 (28 -> 54%)
- 16 wk f/u
  - BID : 15 -> 19 /30 (63%)
  - BID+H2RA : 15 -> 24 /30 (80%)
Result

- Laryngoscopic improvement in responder of BID for 16 w
  - Post cricoid wall
  - Arytenoids complex
  - True vocal fold
Discussion

- **Dosage**: BID
  - BID (50%) > QD (28%) in 8 wk
  - QD -> BID: responder ↑ (7/13, 53%)

- **Duration**: 16 w
  - 8 -> 16 wk: ↑22% (30 -> 43 / 60)
  - BID (72%) and total 3 groups (70%)
  - Omeprazole 20 mg tid po
    - 6w -> 47 %
    - 12 w -> 63 %

- **H2RA hs**: 沒效
Discussion

- **16w treatment outcome predictors**
  - In-significant: S/S, PES, pH, manometry
  - Significant: laryngoscopy 3 sites
    - Inter-A fold, V fold, post cricoid wall,
  - More specific injury sites from LPR
  - Predictive value in inter-A fold and V fold

- **Inter-observer variability:**
  - Only 1 observer
  - Previous evaluation of normals
Discussion

- Different PPIs
  - Same efficacy of 3 PPIs
  - Same response rate in 3 BID group
  - Similar in clinical practice
Take home message
Tx response predictor: Laryngoscopy abnormality in arytenoid complex or vocal fold.
BID PPIs for 16 wks is reasonable.
Thank You!