Nasogastric Tube Syndrome

A rare but serious entity: Nasogastric tube syndrome

Otolaryngology-Head and Neck surgery

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History

- **1790**: First description of NGT & its use [Hunter]
- **1939**: Earliest report of laryngeal injury following NGT [Wangensteen]
- **1990**: Description of the triad of NGTS [Sofferman]:
  - Nasogastric intubation
  - Throat pain
  - Vocal cord paralysis (usually bilateral)

Complications of NG intubation

- Nasal alar necrosis
- Synechiae
- Epistaxis
- Nasopharyngitis
- Eustachitis
- Arytenoid edema
- Nasogastric tube syndrome
Pathophysiology

• Possible mechanisms:
  - Mobile laryngeal structures rub against the fixed NGT
  - While supine, the cricoid compressed the NGT against the spine
  - Tonic contraction of the cricopharyngeus muscle pulls the NGT against the delicate and thin posterior cricoid mucosa

• Position of NGT

  Lateral or Midline? This is a problem

  • Moderate to marked inflammation of postcricoid in midline position
  • Only 6% of NGTs are placed in midline
Clinical Manifestations

• Presenting symptoms:
  - Pain (62%)
  - Stridor (43%)
  - Dysphagia (29%)
  - Hoarseness (24%)
  - Dyspnea (14%)
  - Otalgia (5%)
  - Fever (5%)

• Findings on nasolaryngoscopy:
  - Vocal cord paralysis (100%)
  - Cricoid ulceration (41%)
  - Cricoid granulation (12%)
  - Cricoid abscess (6%)
  - Midline cleft (6%)
Diagnosis

• Problems for diagnosis:
  - Lack of specific warning signs
  - Lack of temporal relationship with intubation
    symptoms appear between 12h after INTUBATION to 2w after EXTUBATION

• Diagnosis relies heavily on:
  - Clinical suspicion
  - Development of complications

**Pain** is an important early symptom and should not be ignored and should prompt a thorough clinical assessment

*Use the smallest-bore tubes as much as possible*
Assessment

- Full head & neck examination (R/O other causes)
- Nasolaryngoscopy (evaluate TVC function & ulceration)
- Possible esophagoscopy (evaluate postcricoid area)
- Sonography or CT of Neck (R/O compressive causes)
- Tracheoesophageal cleft should be considered
- Bx & culture in overt ulceration
- AP neck X-ray (position of NGT)
Treatment

• No consensus with respect to treatment
  ➢ Parenteral steroids
  ➢ Epinephrine
  ➢ Antibiotic ( prevent abscess formation )
  ➢ Tracheotomy ( set should be kept at the bedside in compromised airway )
    50% require tracheotomy
  ➢ Nutritional support ( because of delay in return to function )

• Full recovery time is variable but 100%
  ➢ Return to normal TVC function : 1 day to 2 months (mean : 2 weeks )
  ➢ Longer time to recovery in diabetic patients
  ➢ Impaired immunity may increases the risk of inflammation & ulceration
With best wishes

S. Dabiri