

Chris Landon, M.D.
FAAP, FCCP, CMD
Ventura County Medical Center



Pulmonary Manifestations of Gastroesophageal Reflux Disease

- Apnea
- Aspiration Pneumonia
- Atelectasis
- Bronchiectasis
- Bronchitis
- Chronic Asthma
- Hemoptysis
- Hoarseness or Laryngitis
- Pulmonary Fibrosis
- Seizures related to Hypoxia



Age 3 Months

- Diagnosis: cystic fibrosis, failure to thrive
- Presenting symptoms of cough
- Evaluation UGI no GERD/anatomic obstruction, mildly prolonged gastric emptying scan
- Course hospitalization and PICU

Treatment

- Study site: outpatient
- SE Result: drops to pH < 4 associated with respiratory symptoms
- Intervention: Nissen and G tube
- Course resolution at six week follow-up



Age 4 Months

- Diagnosis: infant in foster care with cough, no records
- Presenting symptoms: 3 months of cough
- Evaluation: hyperinflation on CXR
- Course: hospitalization and ER visits

Treatment

- Study site: hospital
- SE study result: drops to pH < 4 associated with respiratory symptoms
- Intervention: proton pump inhibitor and H2 blocker
- Course resolution at six week follow-up





Age 15 Months

- Diagnosis: 26 week premature, infant in foster care, spitting up, asthma
- Presenting symptoms: 3 months of cough
- Evaluation: UGI no GERD/anatomic obstruction, no delay on gastric emptying scan
- Course: hospitalizations for asthma



Treatment

- Study site: hospital
- SE study result: nocturnal pH > 7, drop to 4.5 ½ hour post-daytime feeds
- Intervention: prokinetic agent and H2 blocker, decrease volume of feeds (overfeeding)
- Course resolution at six week follow-up



Age 4 Years

- Diagnosis: Down's Syndrome, laryngomalacia, NG feeding tube, cerebral palsy
- Presenting symptoms: fever and tachypnea
- Evaluation: aspiration pneumonia on CXR, prolonged gastric emptying on scan
- Course: hospitalizations

Treatment

- Study site: hospital
- SE Study: supine nocturnal drop in pH to 5.0 associated with increased RR and wheeze, daytime pH 6.5–7.0
- Intervention: Nissen and G tube
- Course resolution at six week follow-up



Age 5 Years

- Diagnosis: normal child
- Presenting symptoms: hoarse voice
- Evaluation: vocal cord erythema on endoscopy
- Course: ENT consultation, multiple office visits

Treatment

- Study site: outpatient
- SE study result no drop in pH < 6.5
- Intervention: behavioral intervention regarding screaming
- Course resolution at six week follow-up



Age 9 Years

- Diagnosis: severe mental retardation, cerebral palsy, Nissen fundoplication, gastrostomy tube
- Course: episodes of respiratory deterioration in care home
- Evaluation: UGI (through G-tube) no GERD, Nissen intact
- Course: ER visits

Treatment

- Study site: outpatient 48 hour
- SE study result: pH drop < 5 only associated with water given for medications
- Intervention: review with pharmacist regarding milk and feeds, decrease volume of all feeds
- Course resolution at six week follow-up