Gastroesophageal Reflux, Esophageal Dysmotility, and Delayed Transition onto Solids: Identification and Management, Part I

Presented by Marjorie Meyer Palmer, M.A.
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Gastroesophageal Reflux – contents of the stomach moves in a retrograde direction through the lower esophageal sphincter (LES) and may/may not result in emesis

Physiologic Reflux:
- -emesis occurs infrequently
- -patients are rarely alarmed
- -stomach flu, food poisoning are examples

Functional Reflux
- -frequent emesis
- -vomiting usually occurs immediately after a feed or 30-45 minutes later
- -patient is unconcerned
- -not associated with other symptoms
- -40% show improvement within first three months
- -70% have no symptoms by 18 months

Pathologic Reflux (Gastroesophageal Reflux Disease-GERD)
- -infants have a physical problem as a result
- -most common: failure to thrive, aspiration pneumonia
- -may contribute to reactive airway disease, obstructive apnea
- -recurrent pulmonary problems, asthma

Medical Conditions that predispose an infant to Gastroesophageal Reflux
- -cardiac defect
- -diaphragmatic hernia
- -gastrointestinal tract problems
- -respiratory difficulties
- -central nervous system dysfunction
- -prematurity

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Contributing Factors to Gastroesophageal Reflux

- -supine position after meals
- -increased intra-abdominal pressure from abnormal muscle tone, seizures, hip flexion, gas bloat
- -decreased LES tone and pressure
- -increased transient relaxation of the LES
- -hiatal hernia
- -surgical intervention to the GI tract
- -motility or structural abnormalities

Symptoms of Gastroesophageal Reflux

- -emesis
- -malnutrition
- -aspiration pneumonia, wheezing
- -apnea, cyanotic episodes
- -cough, stridor, hoarseness, hiccups
- -irritability
- -feeding problems

Clinical Manifestations of Gastroesophageal Reflux

- -projectile vomiting
- -arching backward with feeds
- -limited volume intake with failure to thrive
- -respiratory illness, poor pulmonary status
- -frequent wet burps with spitting up

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Evaluation of Gastroesophageal Reflux Disease (GERD)

-pH probe study
-upper GI study
-upper endoscopy
-radionuclide study with milk scan
-modified barium swallow study (MBS) AKA videofluoroscopic swallow study (VFSS)
-esophageal manometry
-salivagram

Management Strategies for Gastroesophageal Reflux Disease (GERD)

Therapeutic

-anti-reflux positioning during and after meals
-smaller, more frequent feedings
-thicker consistencies

Medical

-antacids
-H2 blockers
-Proton Pump Inhibitors (PPI)
-motility drugs to accelerate gastric emptying

Surgical

-Nissen fundoplication- stomach is pulled up around LES; as material enters stomach and stomach distends, it tightens the LES and prevents vomiting

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Esophageal Dysmotility- poor, weak, or irregular peristaltic waves resulting in:

-retrograde movement
-consecutive excursions without downward peristalsis
-gagging, vomiting when material cannot pass
-delayed transition onto solid foods

Clinical Manifestations of Esophageal Dysmotility

-infant unable to sustain a suck/swallow/breathe ratio of 1:1:1
-patient prefers to drink water
-solids are problematic: chewed and expelled or not accepted
-poor appetite with limited volume intake
-often thick pureed food is rejected
-sensory-based oral feeding aversion to textures and/or solids

Factors Contributing to Prolonged Esophageal Dysmotility

-prolonged liquid diet
-delayed transition onto pureed foods
-delayed transition onto solids that do not dissolve during the oral phase of swallow
-constipation and/or vomiting
-eosinophilic esophagitis

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Clinical Evaluation to rule out esophageal dysmotility

-obtain feeding history from family
-observe intake of liquid, pureed food, thick pureed food, solids that do/do not dissolve during the oral phase of swallow
-note consistency preference
-assess oral-motor skills
-if gagging, coughing, choking occurs is it before or after pharyngeal swallow has been triggered (?)
-if questions still remain may conduct a modified barium swallow (MBS) study to investigate esophageal motility for a variety of consistencies

Therapeutic Strategies for esophageal dysmotility

-introduction of small boluses
-gradual increase in food consistency
-use of "liquid wash" to clear esophagus
-selective texture control for diet
-offer child those solids that dissolve easily during the oral phase of swallow but clear esophagus as liquids for success