4 yo boy with dysphagia & 65 yo woman with alopecia

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Patient History

- 4 yo M in USOGH p/w 1 day h/o dysphagia, poorly described abd. pain
- No significant PMH, PSH
- Met all developmental milestones
- Immunizations UTD
- O/E: Mild LUQ tenderness, guaiac neg.
  Otherwise benign exam
KUB (per report)

- Dilated loops of small bowel and normal colonic gas. Stomach bubble not seen.

→ consistent with partial SBO vs. early total SBO
Upper GI Series

- Filling defects within small bowel
- Normal gas distribution in large bowel

Courtesy Dr. PH Weinstock, Children’s Hospital, Boston
Hospital Course

- EGD attempted but unable to advance endoscope into gastric lumen, pt. remained symptomatic
- Patient underwent exploratory laparotomy, gastrotomy
- Upon entering the stomach, a large mass was identified within the lumen of the stomach and extending through the duodenum and proximal jejunum
- At the time of surgery, patient’s grandmother, who had been babysitting earlier in the week, was contacted, but delayed coming to hospital while she searched for a missing wig.
Pathology

“Rapunzel Syndrome”

Trichobezoar

Courtesy Dr. PH Weinstock, Children’s Hospital, Boston
FB Ingestion

- Accounts for a large number of ED visits, particularly within pediatric hospitals
- Useful history often unavailable
- Aprox. 1500 deaths per year in U.S. from FB ingestion and resultant complications
- Peak incidence: 6 months-6 yrs
- In adults: psychotic, mental retardation, impairment due to EtOH or 2° gain.

SSx of FB aspiration/ingestion

- Airway obstruction
  - Cough
  - Wheeze
  - Stridor

- Alimentary obstruction
  - Choking/Drooling (Inability to swallow=total obstruction)
  - Emesis
  - Melena
  - Abdominal Pain
  - Change in bowel sounds
“Bottlenecks” for FBs in GI Tract

- Cricopharyngeus
- Lower esophageal sphincter
- Pyloric sphincter
- Ileocecal valve

http://www.psych.upenn.edu/courses/psych127_Spring2002/gittract.jpg
Radiologic work-up of suspected FBI

- **Plain films** are primary modality for evaluation.
  - Radio-opaque materials (coins, batteries, etc)
  - Soft-tissue reaction adjacent to radio-lucent FBs
  - May swallow contrast-soaked cotton ball to lodge proximal to obstruction
- **Barium swallow**-to identify radio-lucent objects (wig)
- **CT**-provides information re: size, type, location and orientation; identification of complications
- **HHMD**-avoids time, radiation and cost of radiography, can detect aluminum.
3D-CT in evaluating FBI

77 yo F w/ dementia p/w lower abd pain and fever

- Exam and labs WNL

KUB ➔ substantial amount of small bowel gas

US & CT ➔ Enlarged small intestine suggesting ileus

Maximum Intensity Projection (MIP) CT reconstruction

(medication blister pack in ileum)

Failure to locate an object radiographically does not preclude its presence.

Rule of Thumb: esophageal FBs align in the coronal plane, tracheal FBs align in the sagittal plane.
21 month old with difficult micturition

Coin (5 rupee) lodged in cricopharynx

Management of FB in GI Tract

- Remove sharp FB or esophageal FB >24 hrs
  - laryngoscope/foley/bougienage
  - Pt. in Trendelenberg
  - Protect the airway!
- If in stomach, doesn’t necessarily require removal even if sharp
- Urgent intervention:
  - Patient in acute distress
  - Suspect perforation

- Do NOT induce vomiting (ipecac)—this is only used for liquid, dissolved drugs.
- Do NOT use force
- Do NOT assume FB must be removed
- Do NOT miss additional FBs (repeat films!)
Special Cases

- Disc batteries
  - If lodged in esophagus, potential erosion, liquefactive necrosis, heavy metal poisoning
  - If reach stomach, usually pass uneventfully, follow KUB
  - National Button Battery Hotline (202) 625-3333

- Sharp objects
  - Risk of perforation
  - Assess radiographs for SQ emphysema, pneumomediastinum
  - If enter stomach, expectant management with QD films to monitor progress of FB
Instruments used in FB removal

Indirect laryngoscope & forceps
Roth Net
Rule of 2’s in Pediatrics (not Meckel’s)

Objects > 2 inches won’t pass the 2nd portion of duodenum in a patient < 2 years old

• In adults, straight objects > 6-10 cm won’t negotiate duodenal sweep and removal is indicated.
• Anything that passes through the throat will probably pass through the anus
• Round objects >2.5 cm less likely to pass pylorus
77 yo F with N/V x 12 hrs

- Pt. reported abd. cramps & clear emesis
  - Nausea worsened progressively → diffuse pain
  - Denied BRBPR, melena, fever, chills
  - Denied new foods, sick contacts
  - LBM on DOA
  - No further hx provided

- PMH: HTN, ↑ Chol, macular degen (legally blind)
- PSH: s/p lap. cholecystectomy 1998
- ROS otherwise negative
77 yo F with N/V x 12 hrs

O/E:

T 99.9°  P 117  RR 20  BP 144/88

Abd: + LLQ tenderness

Ø shake tenderness/peritoneal signs

Rectal: Normal tone, guaiac -

Presumptive Dx: Diverticulitis
Abdominal Plain Films

- No free air
- R scoliosis
- AFLs
- Clips
- Jejunum 4 cm
- Pelvic FB

Upright

Supine
CT reveals intra-luminal FB

- Transition Point
- Proximal dilated bowel
- Distal decompression
- No Pneumoperitoneum
Coronal CT reconstruction
Coronal CT reconstruction
Coronal CT reconstruction

Unrelated hepatic cysts
Hospital course

Patient admitted for exploratory laparotomy

Noted at laparotomy were moderate turbid fluid (later found to be sterile pus), a phytobezoar and a sharp metallic object within the jejunum, later identified to be a paper clip.

→ small bowel resection → side-to-side anastomosis

Patient did well and was d/c’ed to rehab on POD # 5.
Summary

- FB Ingestion ➔ large number of ED visits
- Major bottlenecks = cricopharynx, GEJ, pylorus, ileocecal valve  LOOK IN THESE LOCATIONS
- Workup may include orthogonal plain films, barium swallow, CT, 3D-CT, HHMD
- Remove if Sx, sharp, long, battery
- Once FB enters stomach, expectant mgmt often appropriate, follow sharps with serial radiographs
References


http://www.bhj.org/journal/2001_4303_july01/case442.htm
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