Obstruction symptom

- Hyper-resonance (tympani)
  - Bowel distension with air =>obstruction
- Distension of abdomen
  - Fluid vs. Air
- Absent bowel sounds (at least 5min)
  - ileus
- Hyperactive
  - obstruction (high pitched or distant)

- Nausea and/or Vomiting
- Diarrhea, if the intestine is partly blocked.
- Constipation and a lack of gas, if the intestine is completely blocked.

Small Bowel obstruction

- SBO may result from previous abdominal surgeries.
- Patient may present with intermittent, colicky pain, abdominal distention, and abnormal BS.
- Only 2 historical features (previous abd surgery and intermittent / colicky pain) and 2 physical findings (abd distention and abn BS) appear to have predictive value in diagnosing SBO.

Small Bowel Obstruction

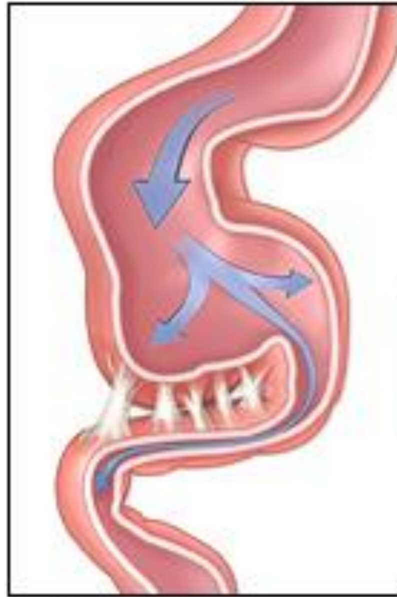
- Plain abd. films has a large number of indeterminate readings and can be very limited due to the following:
  - Pt is obese
  - Pt is bedridden / contracted (limited lateral decub / upright view)
  - Technical limitations

Small Bowel Obstruction

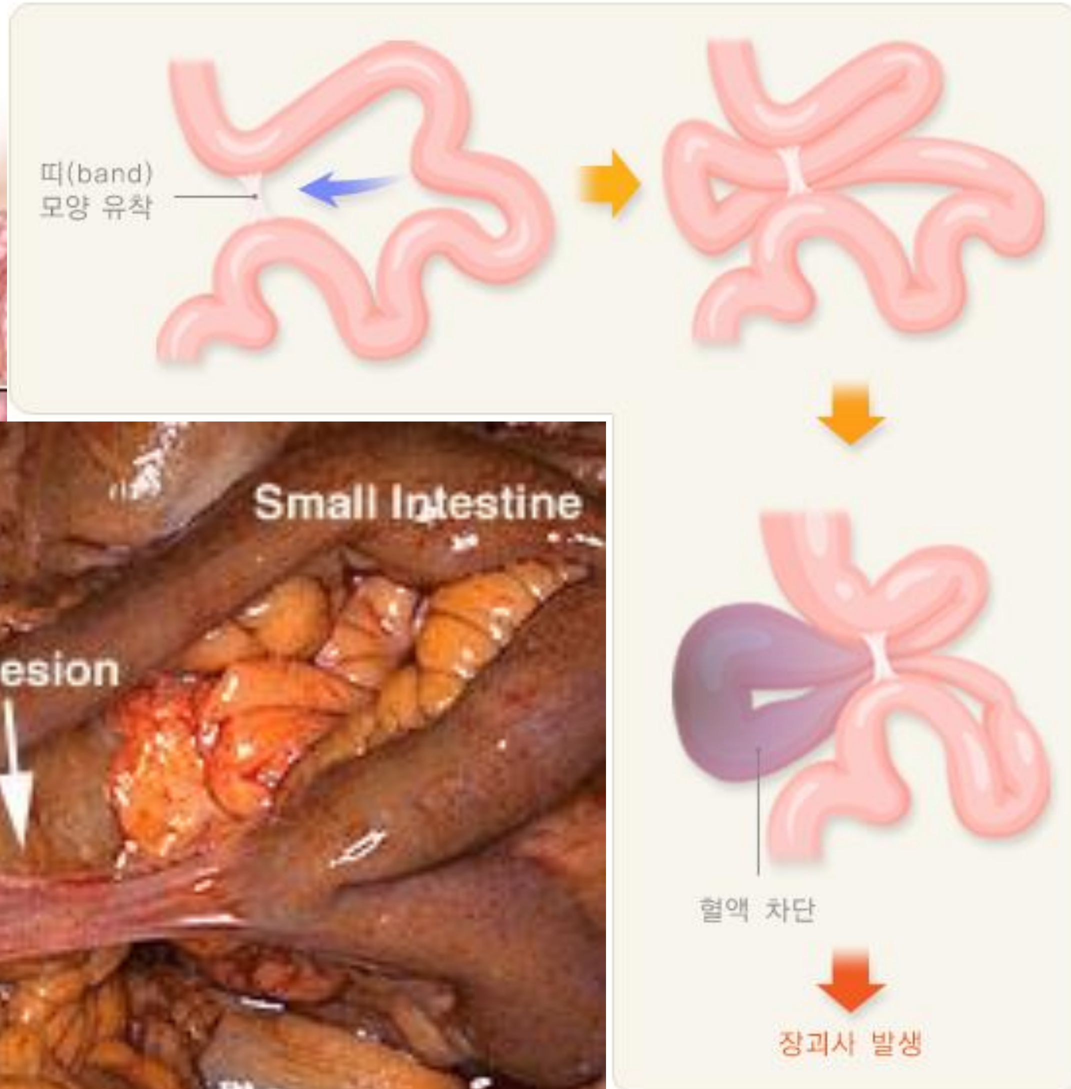
- CT scan is better than plain film in detecting high grade SBO.

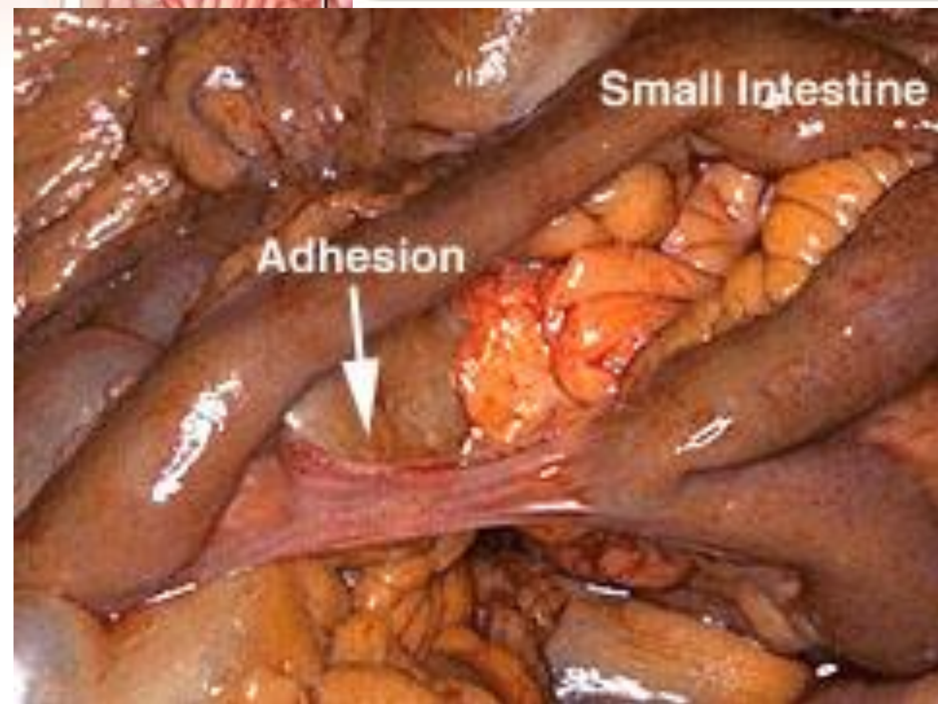
- CT scan can also give more info that might not be seen on plain film (i.e. ischemic bowel).

Adhesion

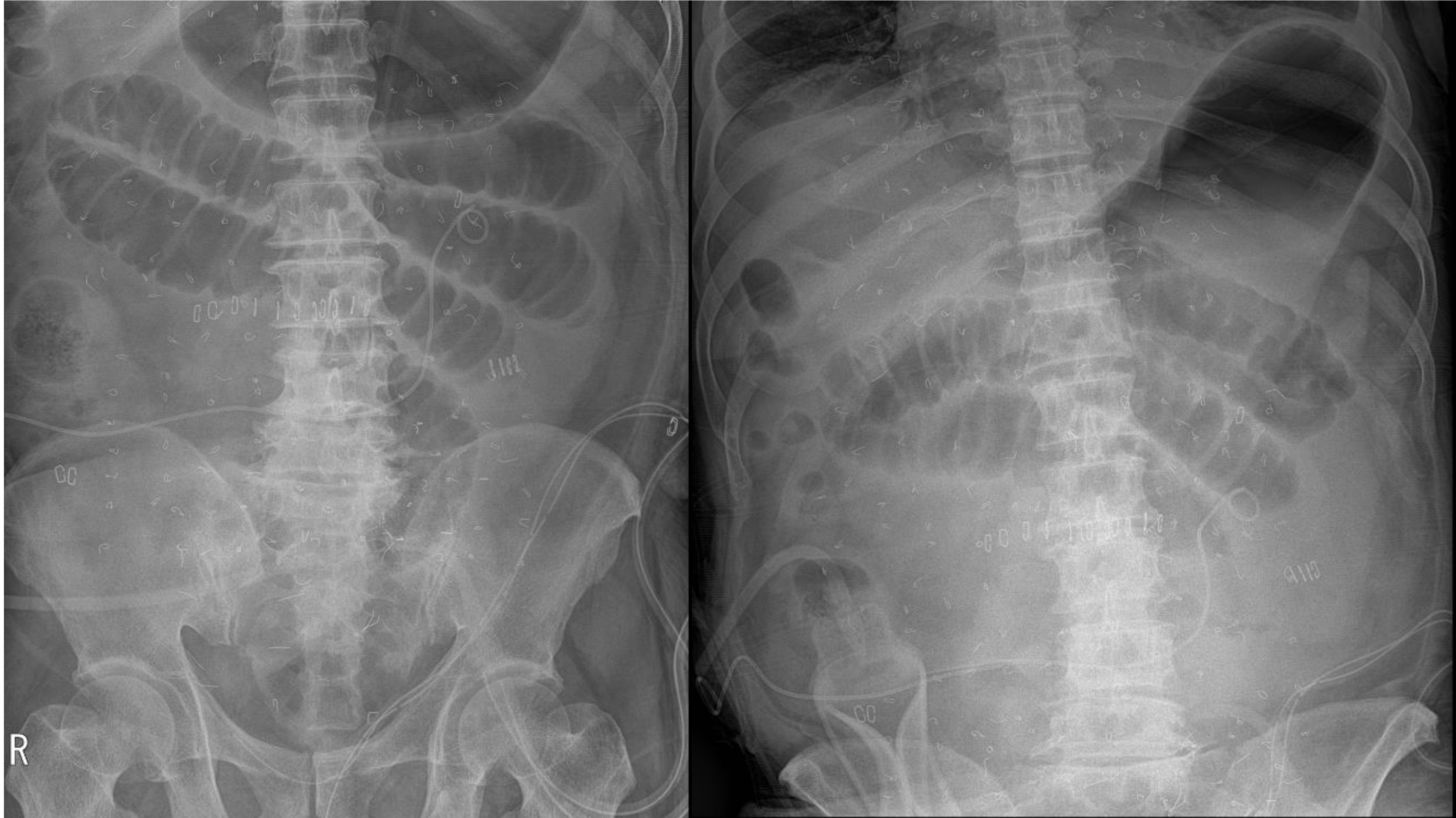


Scar tissue on small intestine





POD #3



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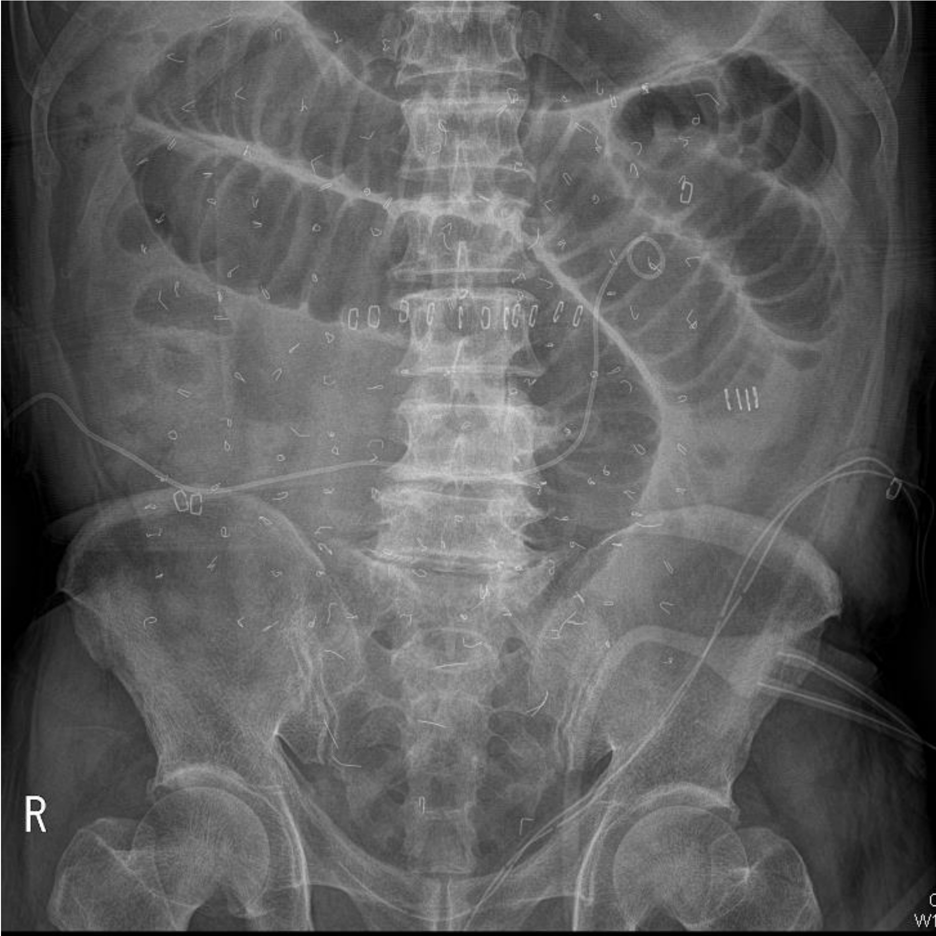
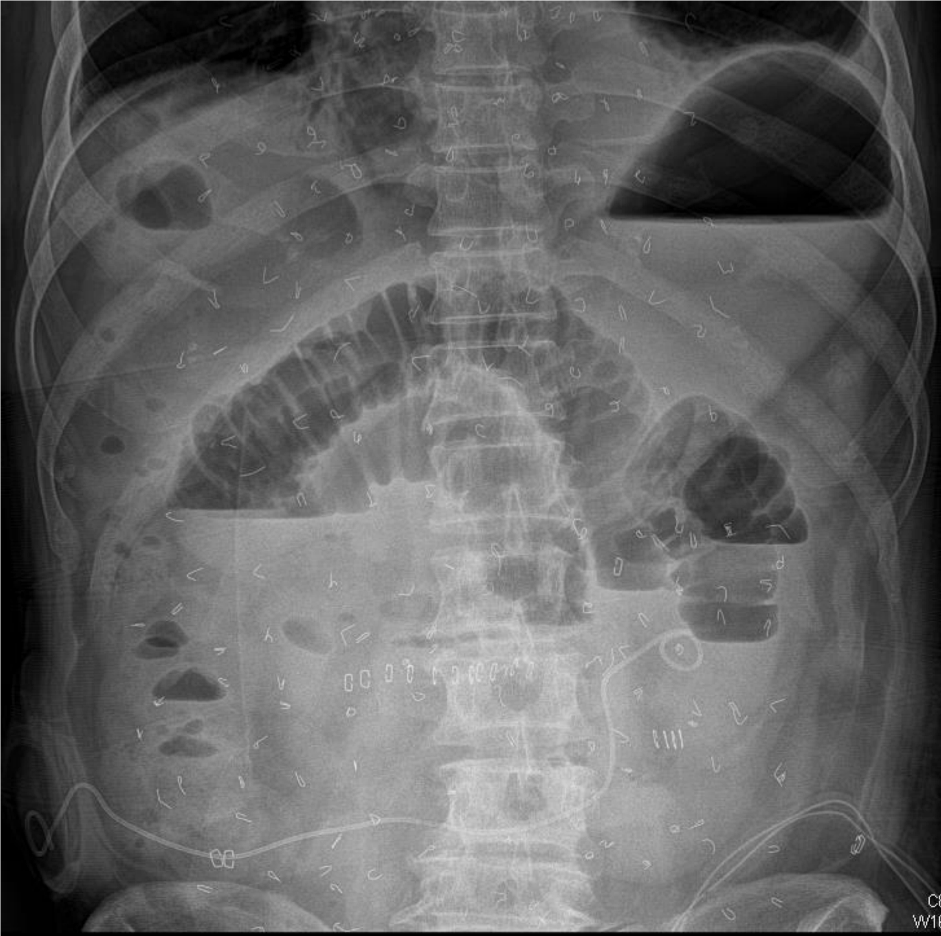
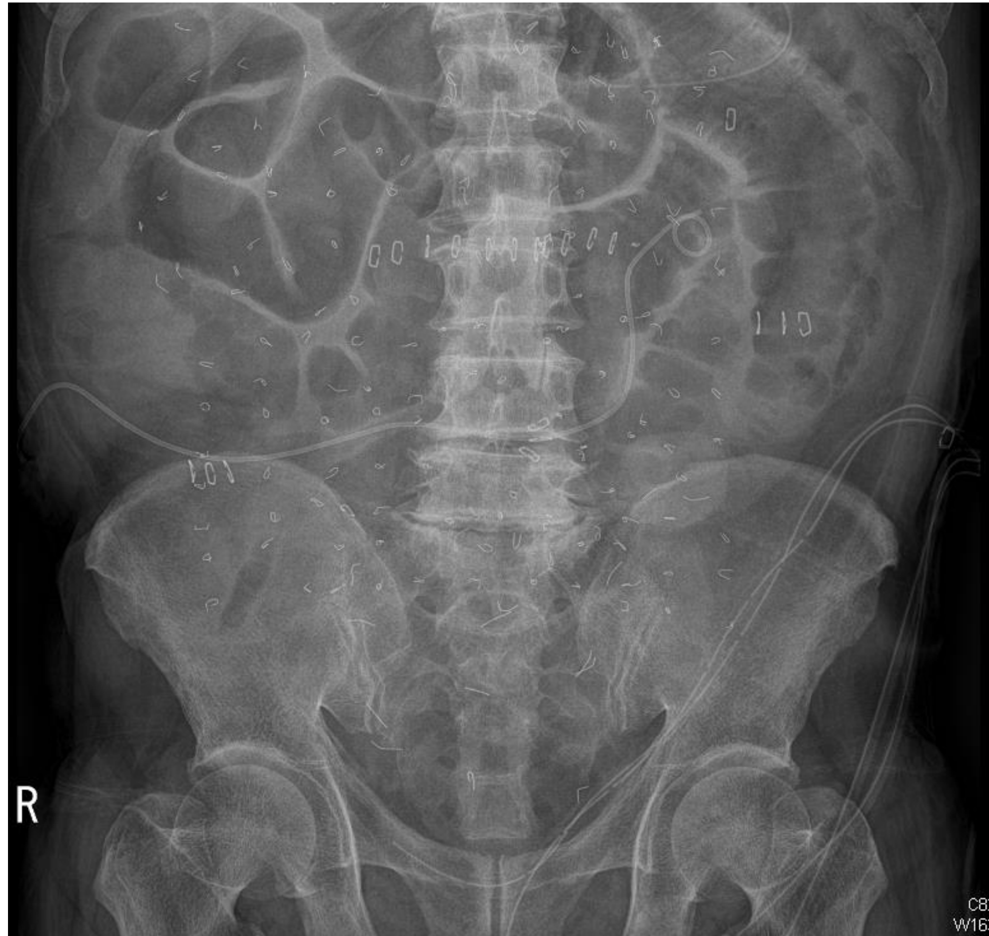
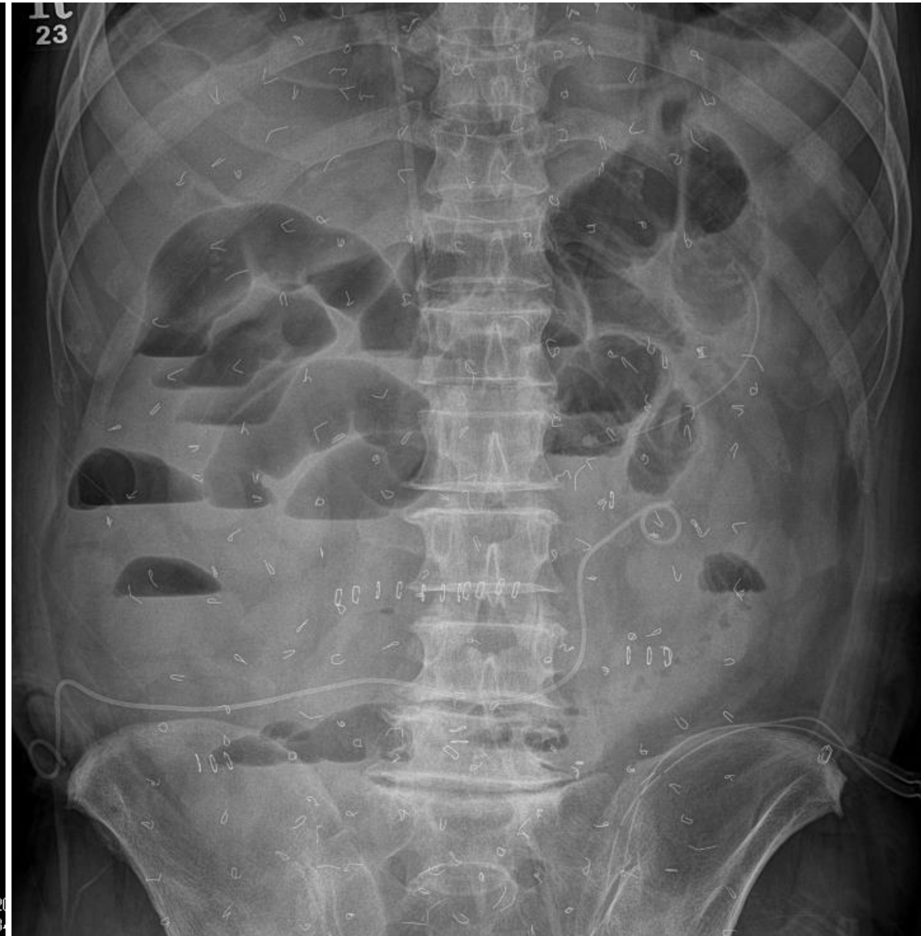


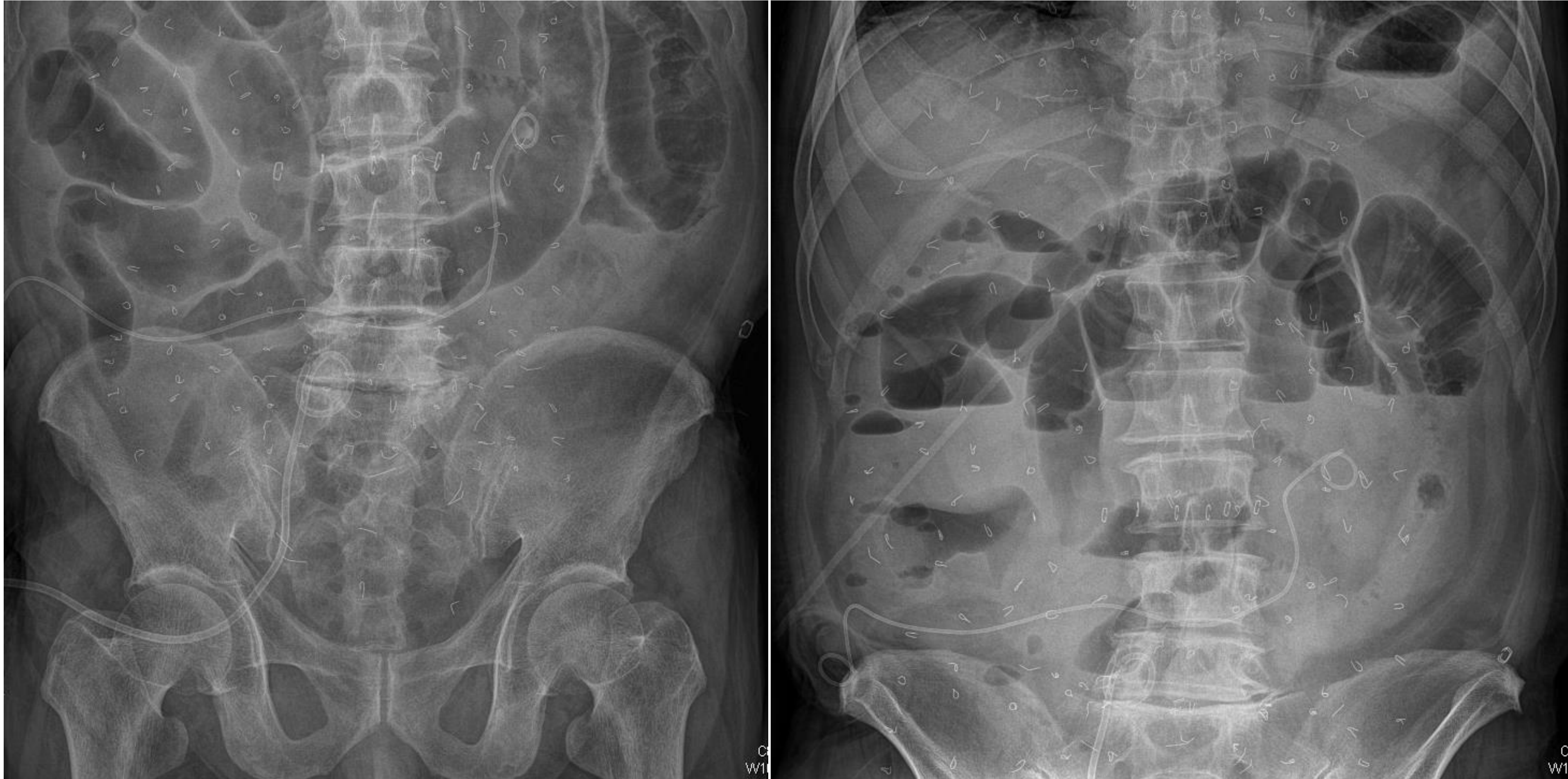


POD#14, re-op POD#6

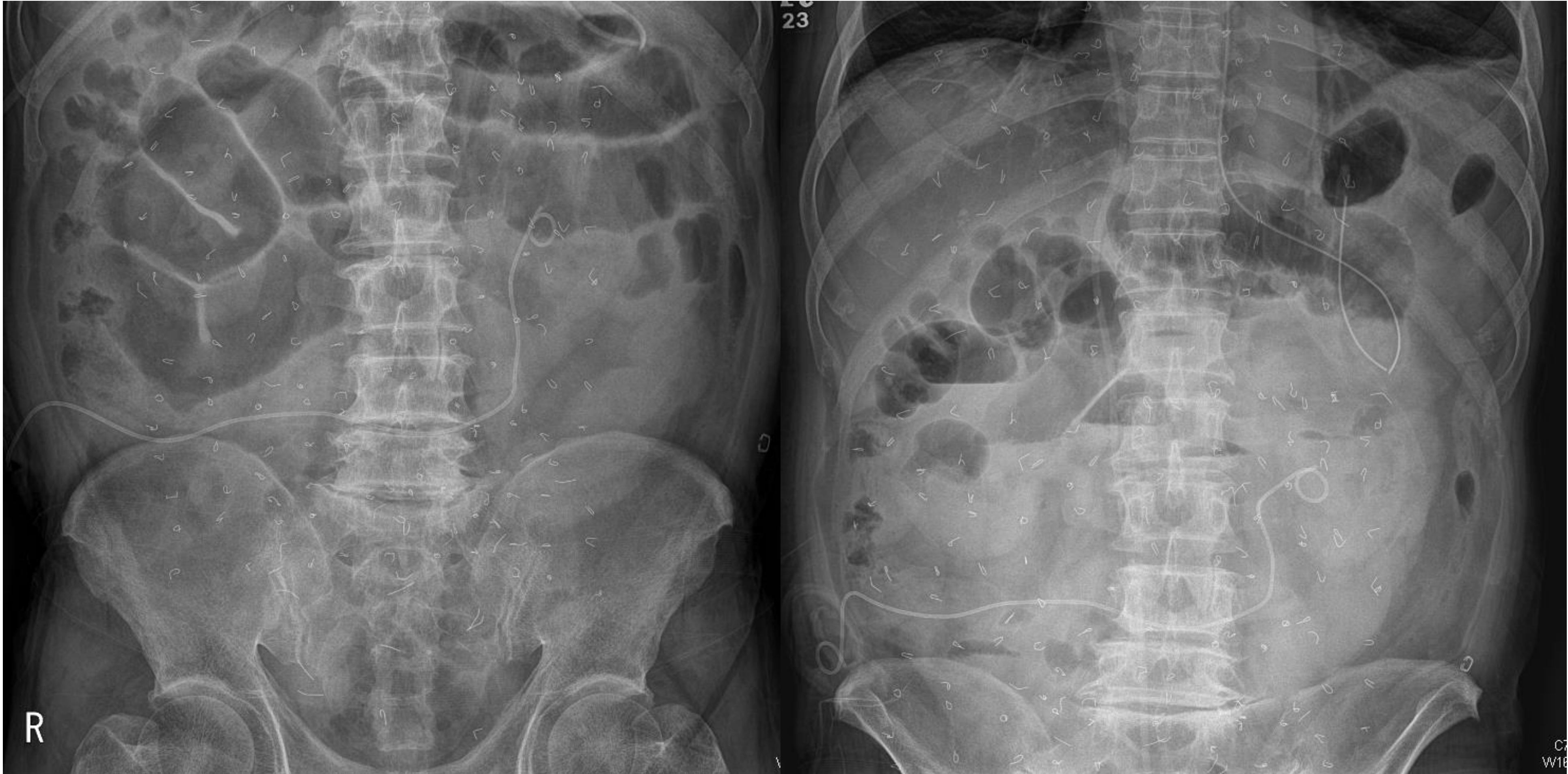




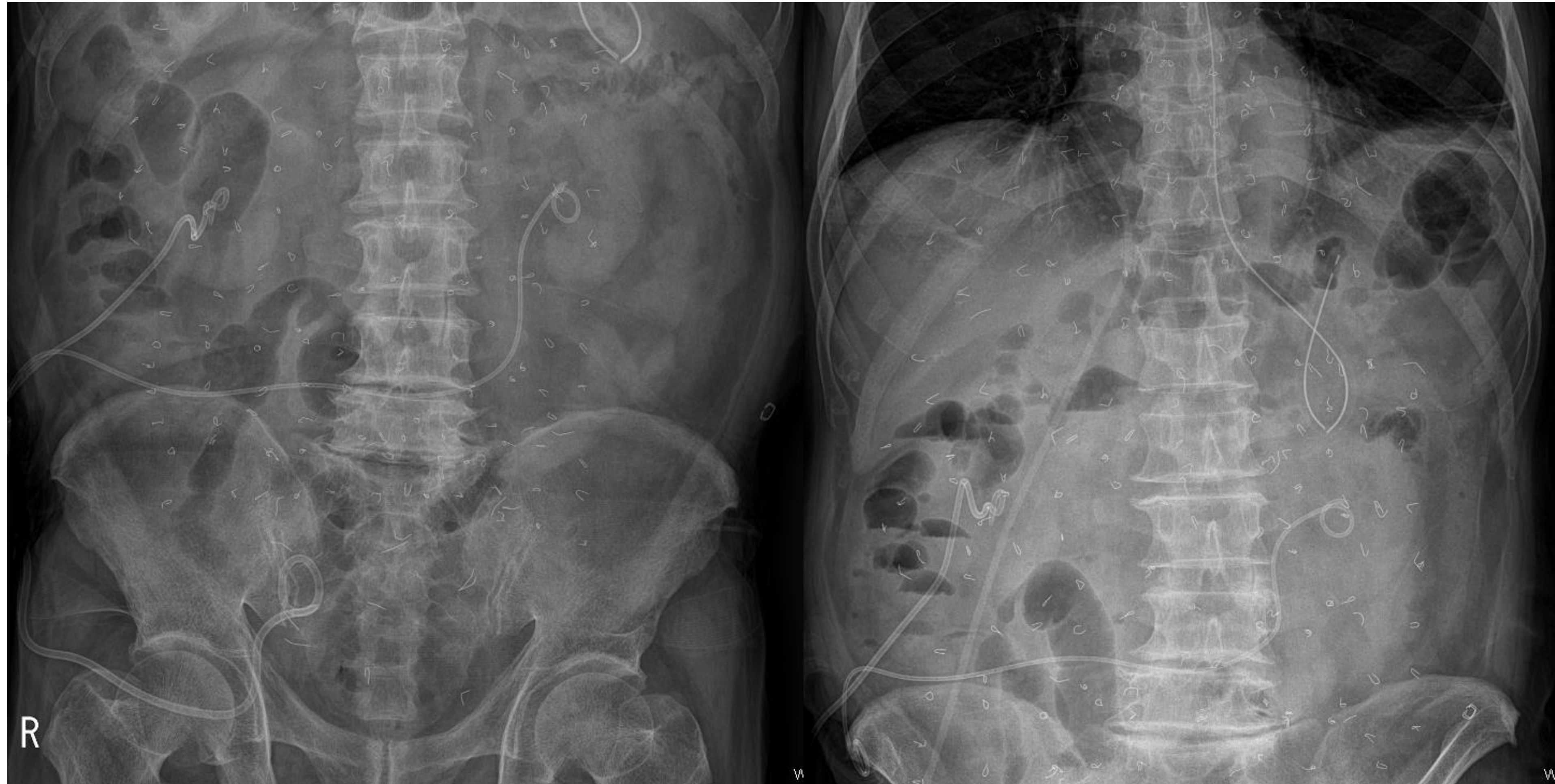
POD#18, re-op POD#10



POD#21, re-op POD#13



POD#23, re-op POD#15



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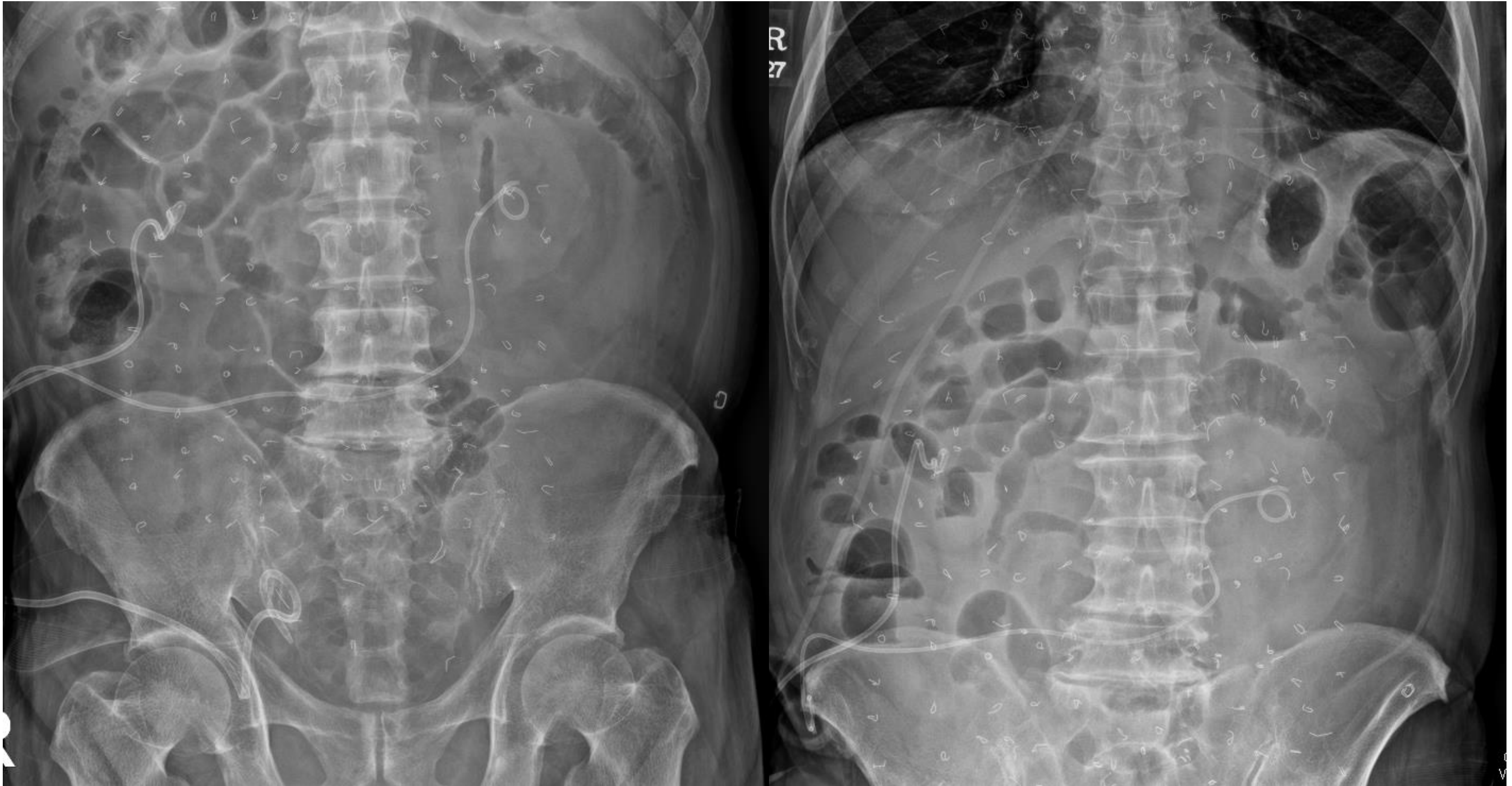
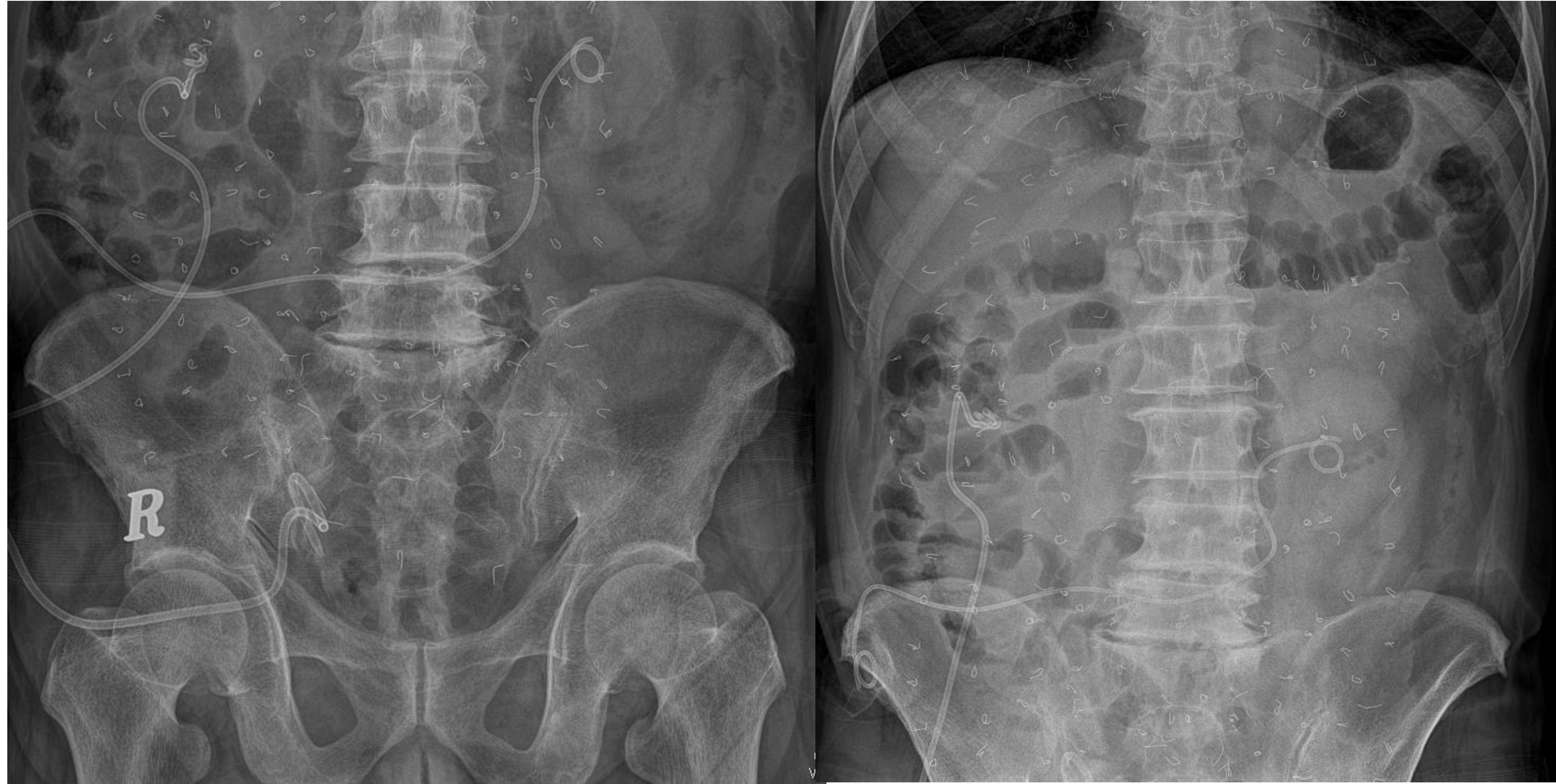


POD#31, re-op POD#23



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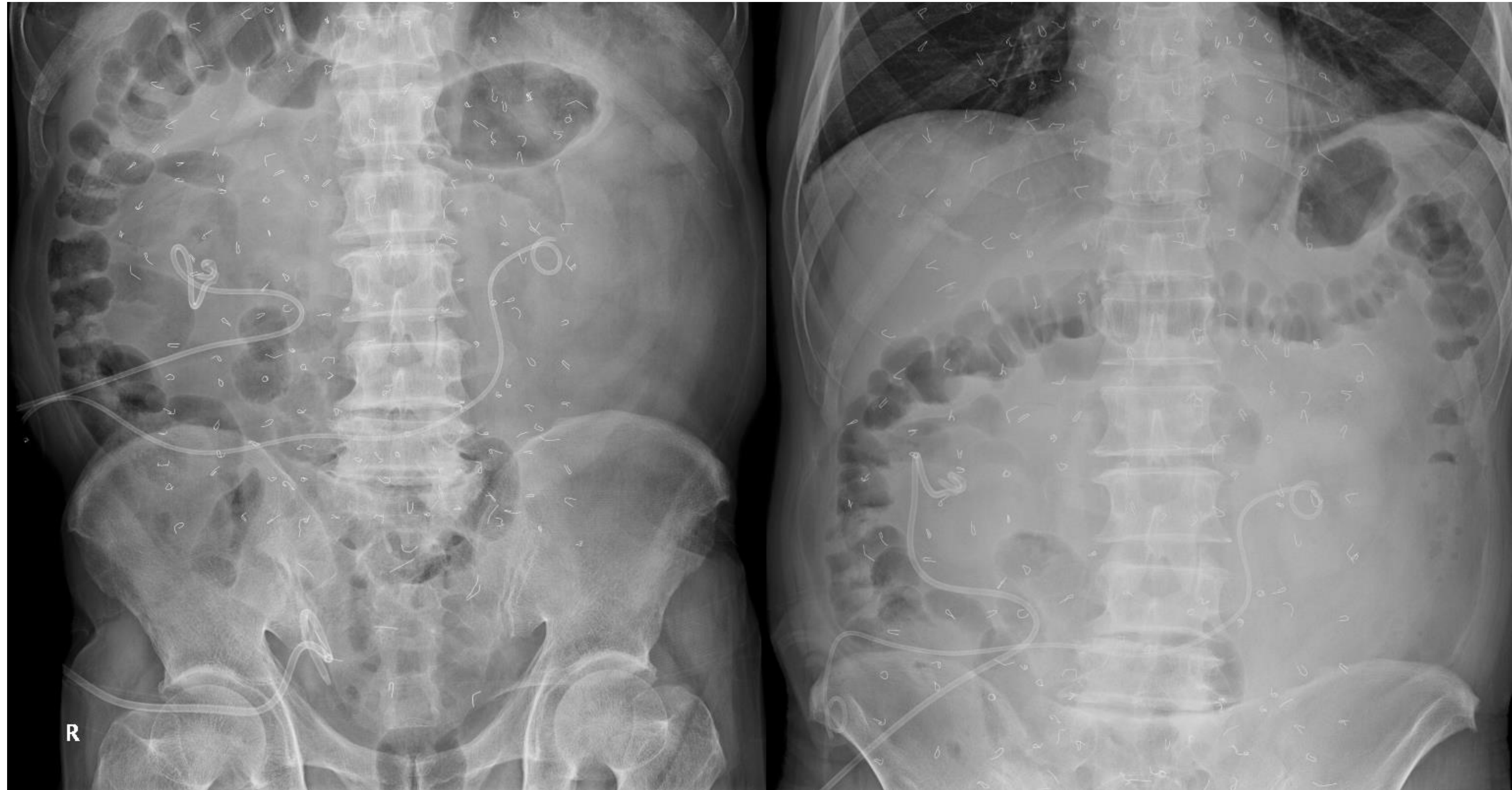
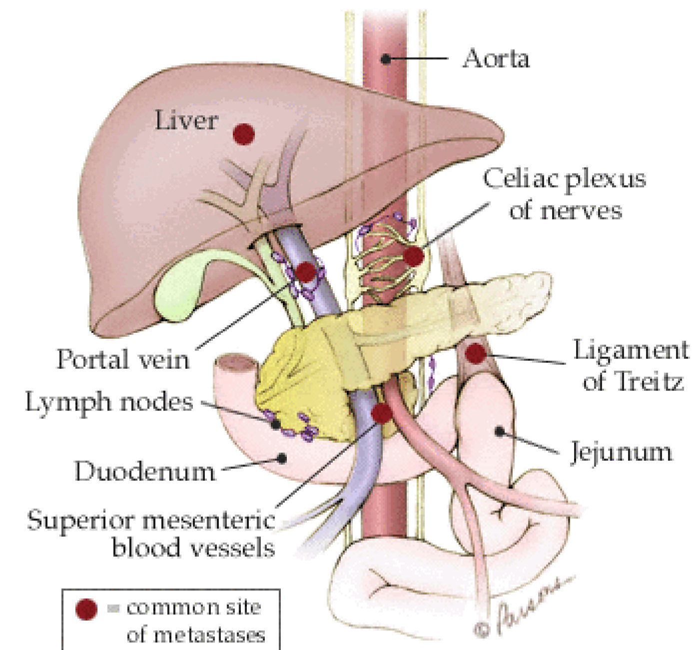


History

- Postural hypotension helps determine need for hospitalization
- Hx PUD, recent use of NSAIDs
- Weight loss & change in bowel habits
- Hx liver disease, ETOH abuse, inflammatory bowel disease

Gastrointestinal bleeding

- Hematemesis
- Melena
- Hematochezia
- Occult bleeding



Clinical Presentation

- Hematemesis- Vomiting of bright red blood
  - usually represents bleeding proximal to the ligament of Treitz
- Hematochezia- bright red blood per rectum
  - indicates a lower GI source of bleeding
- Blood has a laxative effect so with massive bleeding the stool may be bright red

Clinical Presentation

- Blood streaks on the stool indicates anal outlet bleeding
- Blood mixed with stool indicates bleeding source higher than the rectum
- Blood with mucus indicates an infectious or inflammatory disease
- Currant jelly-like material indicates vascular congestion and hyperemia (intussusception or midgut volvulus)

Clinical Presentation

- Maroon-colored stools indicate voluminous bleeding proximal to the rectosigmoid area
- Melena, passage of black, sticky (tarry) stools suggests upper GI tract bleeding, but can be as distal as the right colon
- Hematemesis suggests a large bleed with possible recurrence, melena alone indicates less voluminous bleeding

Clinical Presentation

- Clinical manifestations of GI bleeding depends upon extent & rate

- Postural hypotension suggests acute hemorrhage & intravascular volume depletion

- Fatigue & exertional dyspnea typical symptoms with slow, chronic blood loss

Physical

- Orthostatic changes in pulse & BP
- Cardiopulmonary, Skin
- Examine oral cavity & nasopharynx
- Abdomen, Lymph nodes
- Digital rectal

Estimated fluid and blood losses based on patient's presentation (Adapted from American College of Surgeons' Committee on Trauma, 2004. With permission)

	CLASS 1	CLASS II	CLASS III	CLASS IV
Blood loss (ml)	Up to 750	750–1,500	1,500–2,000	>2,000
Blood loss (% blood volume)	Up to 15%	15–30%	30–40%	>40%
Pulse rate (bpm)	<100	>100	>120	>140
Blood pressure (mmHg)	Normal	Normal	Decreased	Decreased
Respiratory rate	14–20	20–30	30–40	>40
Urine output (ml/h)	>30	20–30	5–15	Negligible
CNS/Mental status	Slightly anxious	Mildly anxious	Anxious, confused	Confused, lethargic
Fluid replacement (3:1 rule)	Crystalloid	Crystalloid	Crystalloid and blood	Crystalloid and blood

Labs and Imaging

- Type and crossmatch: Most important!
- Other studies: CBC, BUN, creatinine, electrolyte, coagulation studies
- <u>Initial Hct often will not reflect the actual amount of blood loss</u>
- Abdominal and chest x-rays of limited value for source of bleed
- Nasogastric (NG) tube (Gastric lavage)
- Angiography
- Bleeding scan
- Endoscopy/colonoscopy

Approach to the Patient with Gastrointestinal Disease

Upper Endoscopy	Colonoscopy	ERCP	Endoscopic Ultrasound	Capsule Endoscopy	Double-Balloon Endoscopy
- Dyspepsia - Refractory vomiting - Dysphagia - Upper GI bleeding - Anemia - Wt. loss - Malabsorption - Biopsy - Polypectomy - Barrett's surveillance - Cancer screening - Therapeutic	- Cancer screening - Lower GI bleeding - Anemia - Diarrhea - Polypectomy - Obstruction - Biopsy - Therapeutic	- Jaundice - Cholangitis - Pancreatitis - Pancreatic /biliary /ampullary tumor - Fistulas - Biopsy - Pancreatico-biliary drainage - Sample bile - Sphincter of Oddi manometry	- Staging of malignancy - Characterize and biopsy submucosal mass - Bile duct stones - Chronic pancreatitis - Drain pseudocyst - Anal continuity	- Obscure GI bleeding - Suspected Crohn's disease of the small intestine	- Ablation of small-intestinal bleeding sources - Biopsy of suspicious small intestinal masses/ulcers

Harrison's Principles of Internal Medicine, 20th

Etiology of UGI Bleeding

- Differential diagnosis is extensive
- Major causes;
  - Peptic ulcer disease(PUD) 31~67%
  - Esophageal/Gastric Varices 6~39%
  - Esophagitis 1~13%
  - Mallory-Weiss tear 2~8%
  - GI Malignancy 2~8%

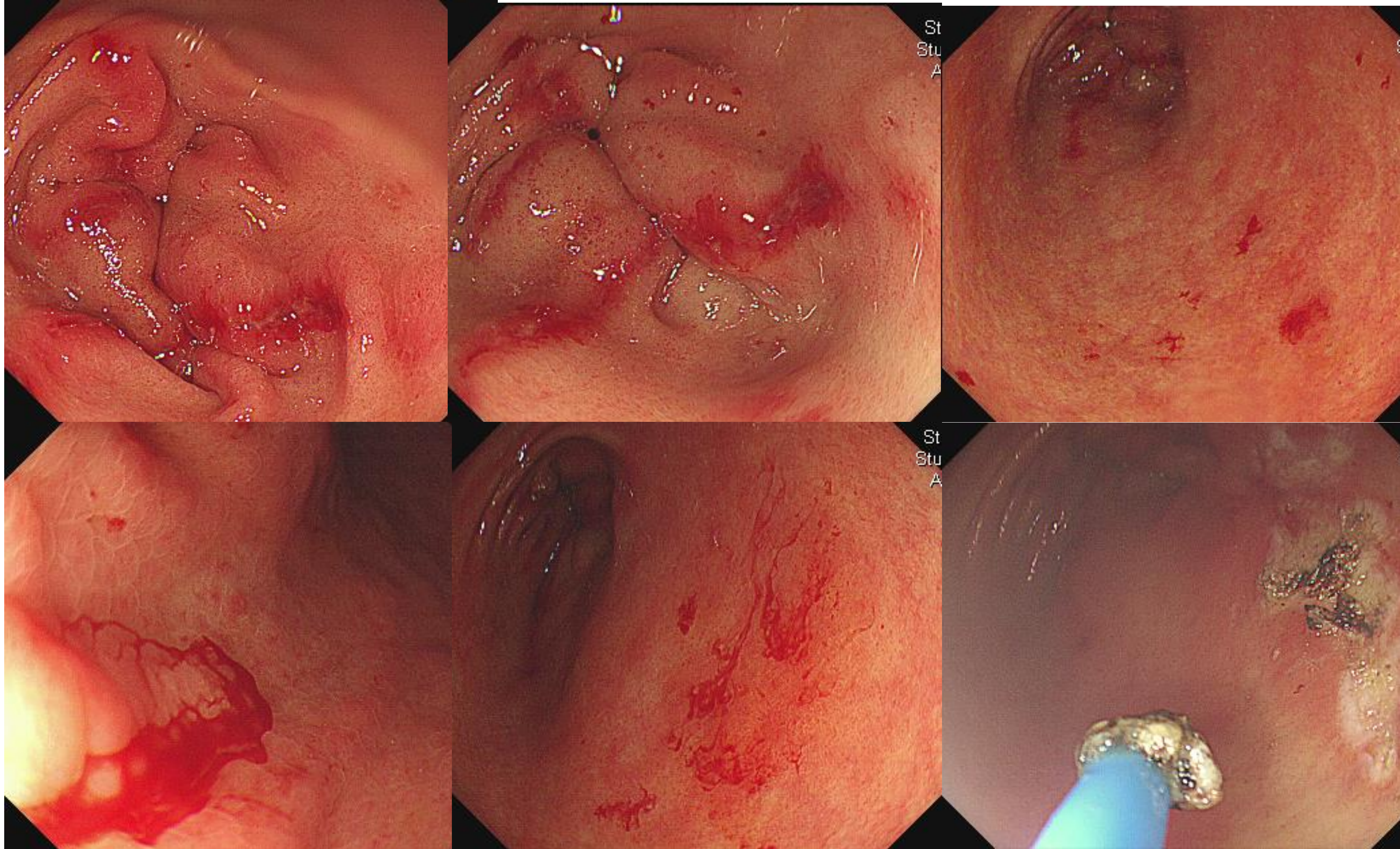
Harrison's Principles of Internal Medicine, 20th

Etiology of LGI Bleeding

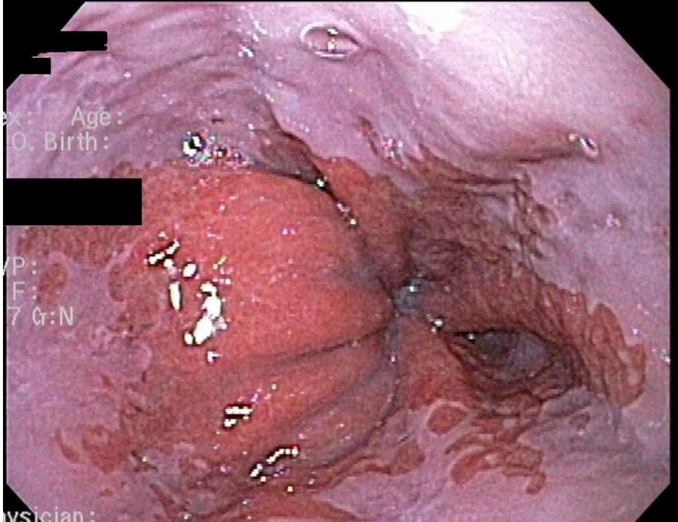
- Diverticular 5~42%
- Anal and rectal lesions 6~16%
  - hemorrhoids, anal fissures, rectal ulcers
- Angiodysplasia 10%
- Malignancy 2-~26%
- Inflammatory Bowel Disease 10%
- Ischemic Colitis 6~18%
- Radiation Colitis/Proctitis 1~3%

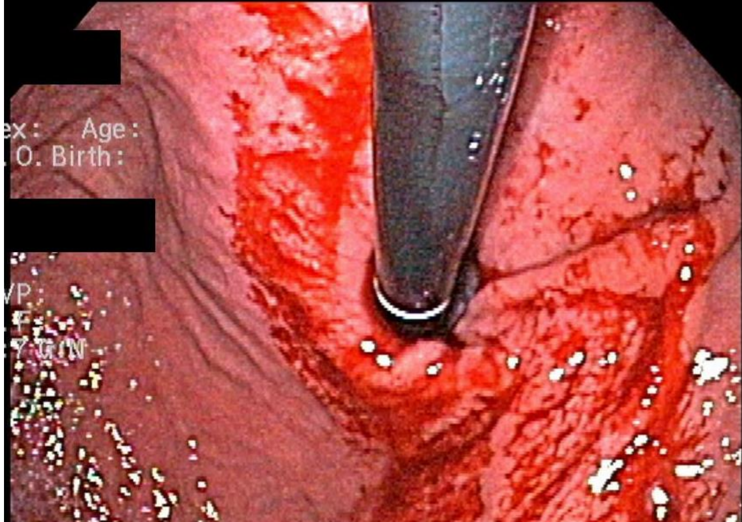
Harrison's Principles of Internal Medicine, 20th

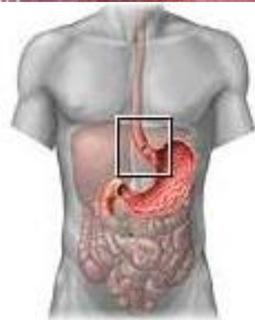
EGD-hemostasis

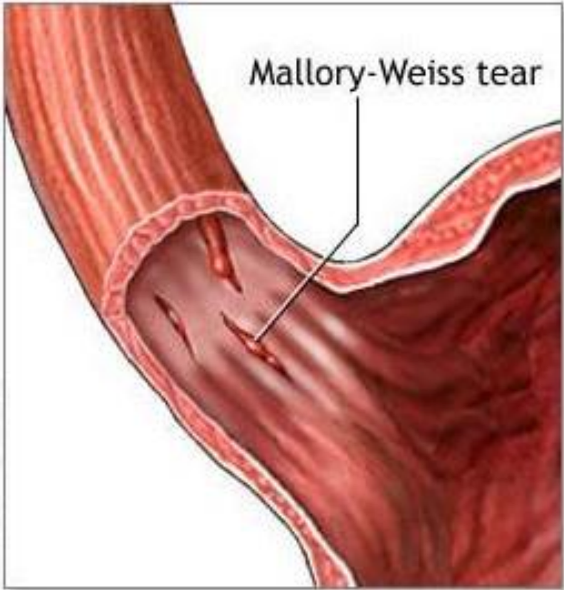


Mallory-Weiss syndrome

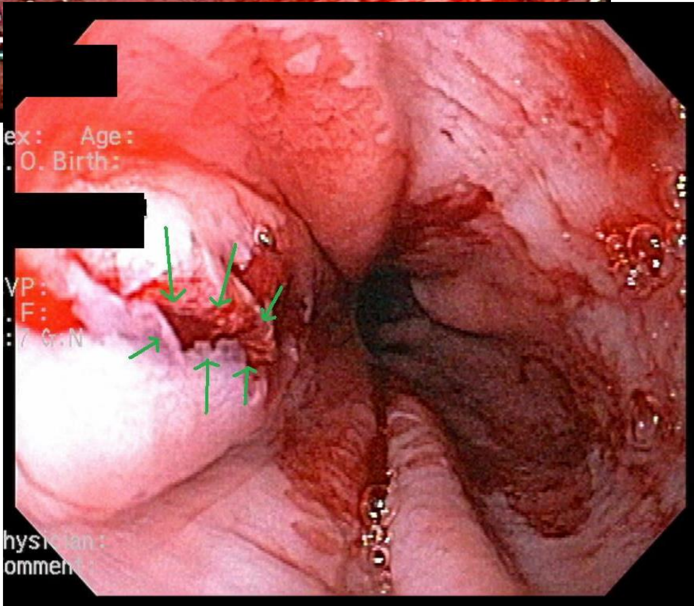








A Mallory-Weiss tear is a tear in the mucosal layer at the junction of the esophagus and stomach



Special Circumstances

- Situations making diagnosis difficult
  - Stroke or spinal cord injury
  - Influence of drugs or alcohol
- Severity of disease can be masked by:
  - Steroids
  - Immuno-suppression (i.e. AIDS)
  - Threshold to operate must be even lower

Thank you for your attention.