

AI-03023 DDx Distended Abdomen Jaundice

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Perform a differential diagnosis of 54 years old Asian female (financially not capable of advanced medical care due to socioeconomic reasons) who had a recent distal lower left injury because her left leg was ran over by a midsize garbage truck. Repair surgery was done but external pins were used for the initial surgery. 2 days post orthopedic surgery, the stomach was distended and the skin color is yellowish. No fever or visible signs of infection. Per radiological X-ray, she also fractured both of her hips but the surgeon considered the fractures as non life threatening. Perform a DDx on the distended abdomen and yellowish skin color.

Here's a structured differential diagnosis (DDx) for a 54-year-old Asian female post-orthopedic surgery with distended abdomen and yellowish skin color (jaundice), 2 days after her lower-extremity injury and surgery.

1. Direct Answer (DDx)

Main possibilities:

1. Postoperative Ileus / Bowel Obstruction
 - Common after trauma and surgery.
 - Can cause abdominal distension, nausea, vomiting, absent or reduced bowel sounds.
 - Yellowish discoloration could be due to severe hepatic congestion or drug-induced cholestasis.
2. Trauma-induced Liver Injury / Hematoma

- Even if not initially diagnosed, blunt abdominal trauma from being run over can cause liver laceration, contusion, or hematoma, leading to jaundice from hepatocellular dysfunction or hemobilia.
 - Abdominal distension could reflect intra-abdominal bleeding or ascites.
3. Drug-Induced Hepatotoxicity
 - Anesthetics (e.g., halothane), antibiotics, analgesics (paracetamol/acetaminophen, NSAIDs), or blood transfusion reactions could cause hepatocellular injury or cholestatic jaundice.
 4. Hemolysis / Massive Transfusion Reaction
 - If she received blood transfusion, hemolysis could lead to indirect hyperbilirubinemia (yellowish skin) and contribute to abdominal discomfort.
 5. Gallbladder or Biliary Tract Complication
 - Acalculous cholecystitis (seen in critically ill, post-surgical patients) may cause jaundice and abdominal distension.
 - Obstructive causes (e.g., common bile duct stones) are less likely unless prior gallstone history.
 6. Pancreatic Trauma / Acute Pancreatitis
 - Blunt trauma can trigger pancreatitis → distended abdomen, ileus, jaundice (from obstruction of bile duct).
 - Post-op anesthesia and hypotension are also risk factors.
 7. Sepsis-related Cholestasis (without fever yet)
 - Even without fever, early systemic inflammatory response may cause impaired hepatic clearance of bilirubin.

2. Key Reasons

- Abdominal distension: favors ileus, bowel obstruction, intra-abdominal bleeding, or pancreatitis.

- Yellowish skin (jaundice): points to liver involvement (injury, drugs, sepsis, transfusion reaction).
- No fever: makes sepsis less likely at this stage, but does not rule out.
- Recent trauma (truck ran over): raises concern for missed solid-organ injury (liver/pancreas).
- External fixation surgery: anesthesia/medications may contribute to hepatic dysfunction.

3. Alternatives to Consider

- Cardiac-related hepatic congestion (from perioperative heart failure/shock).
- Crush syndrome / rhabdomyolysis → secondary hepatic and renal impairment, jaundice-like discoloration, abdominal bloating due to fluid shifts.
- Ascites due to hypoalbuminemia from trauma, surgery, or poor nutrition.

4. Action Plan (practical, resource-limited)

Since the patient has financial constraints, prioritization of basic but high-yield investigations is crucial:

1. Bedside & Physical Exam

- Bowel sounds (absent → ileus, high-pitched → obstruction).
- Percussion for shifting dullness (ascites).
- Tenderness/guarding (peritonitis, pancreatitis).
- Look for scleral icterus to confirm jaundice.

2. Basic Labs (minimal cost)

- CBC (look for anemia/bleeding).
- LFTs (bilirubin direct/indirect, AST/ALT, ALP, GGT).
- Electrolytes (K^+ , Mg^{2+}) since derangements worsen ileus.

- Serum amylase/lipase (if pancreatitis suspected).
 - Urinalysis (bilirubin/urobilinogen).
3. Imaging (if available)
- Bedside ultrasound (cheaper than CT) → check for free fluid, gallbladder status, hepatic injury, ascites.
4. Supportive Management
- NPO (nil per os) if ileus/obstruction suspected.
 - Nasogastric tube decompression if vomiting/severe distension.
 - IV fluids, correct electrolytes.
 - Monitor urine output.
 - Avoid hepatotoxic drugs (paracetamol in high doses, etc.).

✓ Most likely working diagnoses in this case:

- Postoperative ileus with trauma-related hepatic dysfunction (or drug-induced cholestasis).
- Need to rule out missed intra-abdominal injury (liver or pancreas), as these can be life-threatening but sometimes subtle initially.

Would you like me to build a decision-tree style Ddx flow (trauma vs medication vs post-op complication) so you can triage bedside without needing full labs/CT, since she may not afford them?

Great — let's build a decision-tree style differential diagnosis for your 54-year-old patient (post lower-extremity surgery, now with abdominal distension + yellowish skin). This will help triage in a resource-limited setting.

Decision Tree for Distended Abdomen + Jaundice (Post-Surgery)

Step 1: Confirm Jaundice vs. Skin Color Changes

- Look at sclera
 - ✓ Yellow sclera → true jaundice → hepatic/biliary/blood cause.

- **✗** Only skin → could be anemia, bruising, or poor lighting.

Step 2: Rule Out Immediate Life-Threatening Abdominal Causes

- Is abdomen tense, tender, or with peritonitis signs (rigidity, rebound)?
 - **✓** Yes → think missed intra-abdominal injury (liver/spleen rupture, pancreatic trauma) or peritonitis → urgent surgical review.
 - **✗** No → go to Step 3.

Step 3: Distension Source — Gas vs Fluid

- Percuss the abdomen
 - Tympanic (drum-like) → likely ileus/obstruction.
 - Dullness that shifts with position → ascites / internal bleeding.

Step 4: Timeline + Surgery/Drugs

- Early (1–3 days post-op)
 - Ileus is common → bowel quiet, distension, minimal pain.
 - Drugs (anesthesia, opioids, antibiotics, paracetamol) → hepatotoxicity → jaundice.
- Later (>5 days)
 - Sepsis-related cholestasis, acalculous cholecystitis.

Step 5: Quick Differentiators for Jaundice

Pattern	Key Signs	Likely Cause
Pre-hepatic (hemolysis, transfusion)	Pale skin, dark urine absent, indirect bilirubin ↑	Hemolysis, transfusion reaction
Hepatic (liver injury, drugs, ischemia)	Tender liver, ↑AST/ALT, history of trauma/anesthesia	Liver contusion, anesthetic hepatitis, acetaminophen
Post-hepatic (obstructive/cholestasis)	Dark urine, pale stools, pruritus, RUQ pain	Acalculous cholecystitis, biliary obstruction, pancreatitis

Step 6: Practical Bedside Priorities

- Check vitals (tachycardia, hypotension → shock/bleeding).

- Listen for bowel sounds (silent → ileus, tinkling → obstruction).
- Palpate for liver enlargement/tenderness.
- Check urine color + stool color (cheap but very telling).



Working Diagnosis by Probability

1. Postoperative Ileus (most common, explains distension).
2. Drug-induced hepatic dysfunction / anesthetic hepatitis (explains jaundice).
3. Missed intra-abdominal trauma (liver/pancreas injury) → must be ruled out.
4. Hemolysis or transfusion reaction if transfused.
5. Acalculous cholecystitis / obstructive jaundice (critically ill patient).



Simple Action Plan (Resource-Limited)

1. NPO (nothing by mouth), NG tube if vomiting.
2. IV fluids + correct electrolytes (esp. K^+ , Mg^{2+}).
3. Stop hepatotoxic drugs (limit paracetamol/NSAIDs).
4. Bedside ultrasound (if available) → quick check for free fluid, gallbladder, liver.
5. Basic labs if affordable: CBC, LFTs, electrolytes.
6. Escalate surgically if signs of peritonitis, bleeding, or worsening jaundice.

👉 In short:

- If distension + quiet bowel → ileus is main suspect.
- If distension + shifting dullness → bleeding/ascites.
- If jaundice + RUQ tenderness → hepatic/biliary problem.

Would you like me to draw this decision tree into a simple flowchart diagram you can keep as a quick bedside reference?