Gallbladder Carcinoma

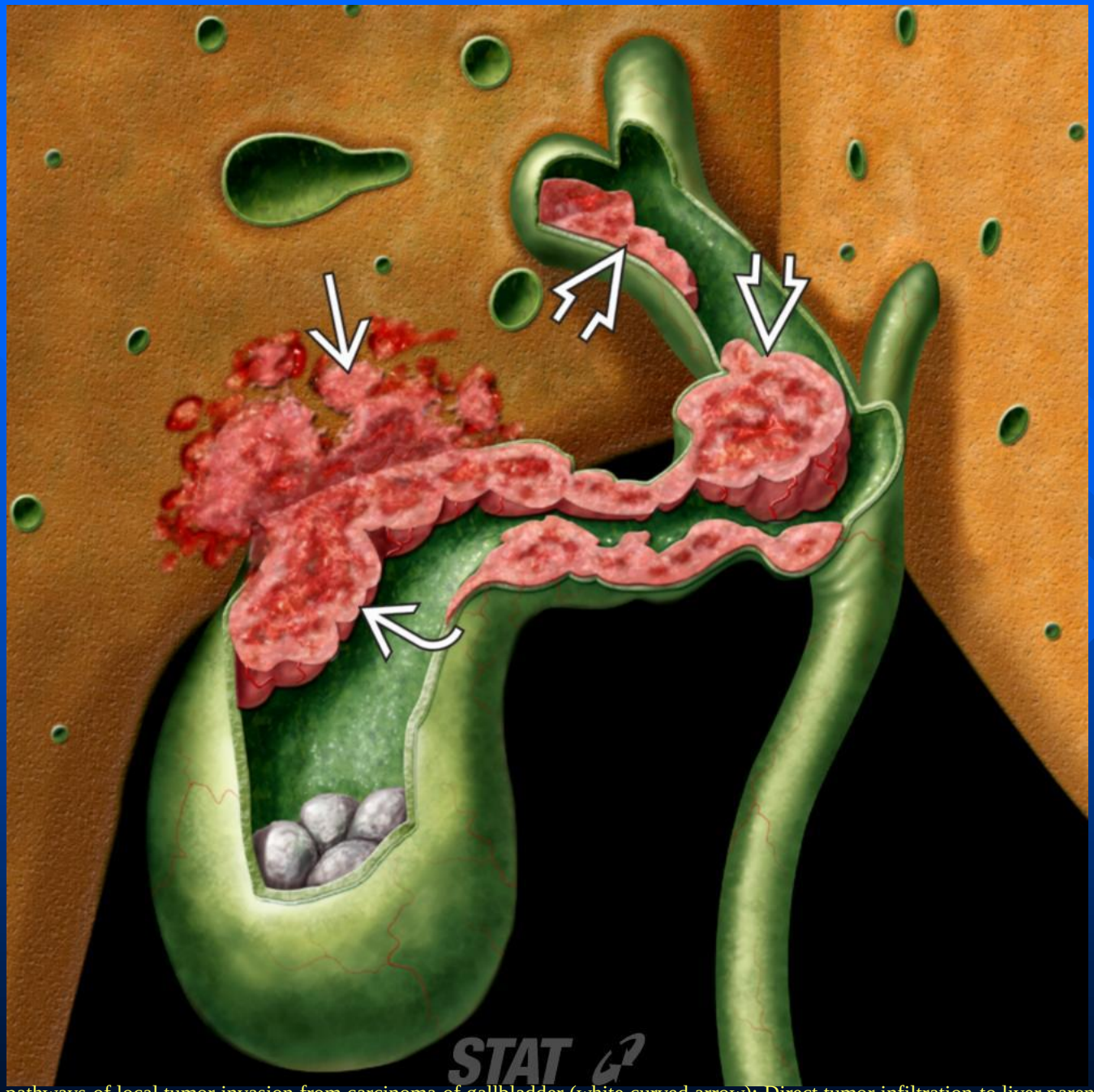
- Most common malignancy of biliary tree, with worst prognosis
- Epithelial neoplasm arising from gallbladder (GB) mucosa with predilection for women and the elderly
- Characterized by early locoregional spread directly to liver and peritoneum and porta hepatic and paraaortic lymph nodes (LNs)
- Most are adenocarcinoma, mean 5-year survival rate 5-10%
- Most often, diagnosed incidentally after elective cholecystectomy for presumed benign disease
- Preoperative diagnosis occurs in < 20% of patients

General features

- **Best diagnostic clue**
  - Poorly defined mass in gallbladder (GB) fossa
  - Invasion into liver and adjacent organs
  - Regional metastatic lymphadenopathy (LAN)
- **Location**
  - GB fundus and body; uncommon in cystic duct
- **Morphology**
  - 3 main morphological types
    - » Polypoid intraluminal mass: > 1 cm, thickened base, irregular margins
    - » Diffuse or focal GB wall thickening: Asymmetric, irregular, extensive thickening
    - » Large soft tissue mass infiltrating gallbladder fossa/replacing GB, ± invading liver
- 80% patients with GBC have GS; 0.3-3% patients with GS have GBC

US

- **Grayscale ultrasound**
  - Mass is usually hypoechoic relative to normal liver
  - Extraluminal mass infiltrating GB fossa, extending into liver
  - Heterogeneous irregular GB wall thickening
    - Malignant features include thickness > 5 mm, irregularity, and asymmetry
  - Intraluminal moderately echogenic polypoid mass
    - Size > 1 cm independent positive predictor
    - Lobulated surface
    - Hypoechoic internal echogenicity
  - Gallstones, ± GB wall calcification
  - Additional ominous findings include evidence of local invasion, LAN, and distant metastases
- **Color Doppler**
  - Areas of vascularity within the mass
  - Presence of vascular core in > 1 cm polyp
- Contrast-enhanced US
  - Features more likely associated with malignant wall thickening
    - Inner or outer wall discontinuity
    - Focal wall thickening > 10 mm
  - Better visualization of intraluminal polyp
  - Early phase hyperenhancement relative to liver, with washout within 35 seconds: Improved detection, characterization, and evaluation of invasion
  - Tortuous vasculature
- Newer US technologies under investigation
  - High-resolution US (HRUS): Combination of low- and high-frequency transducers may help in more accurate size assessment of intraluminal polyps



Graphic shows pathways of local tumor invasion from carcinoma of gallbladder (white curved arrow): Direct tumor infiltration to liver parenchyma (white solid arrow); retrograde spread along biliary tree (white open arrow).

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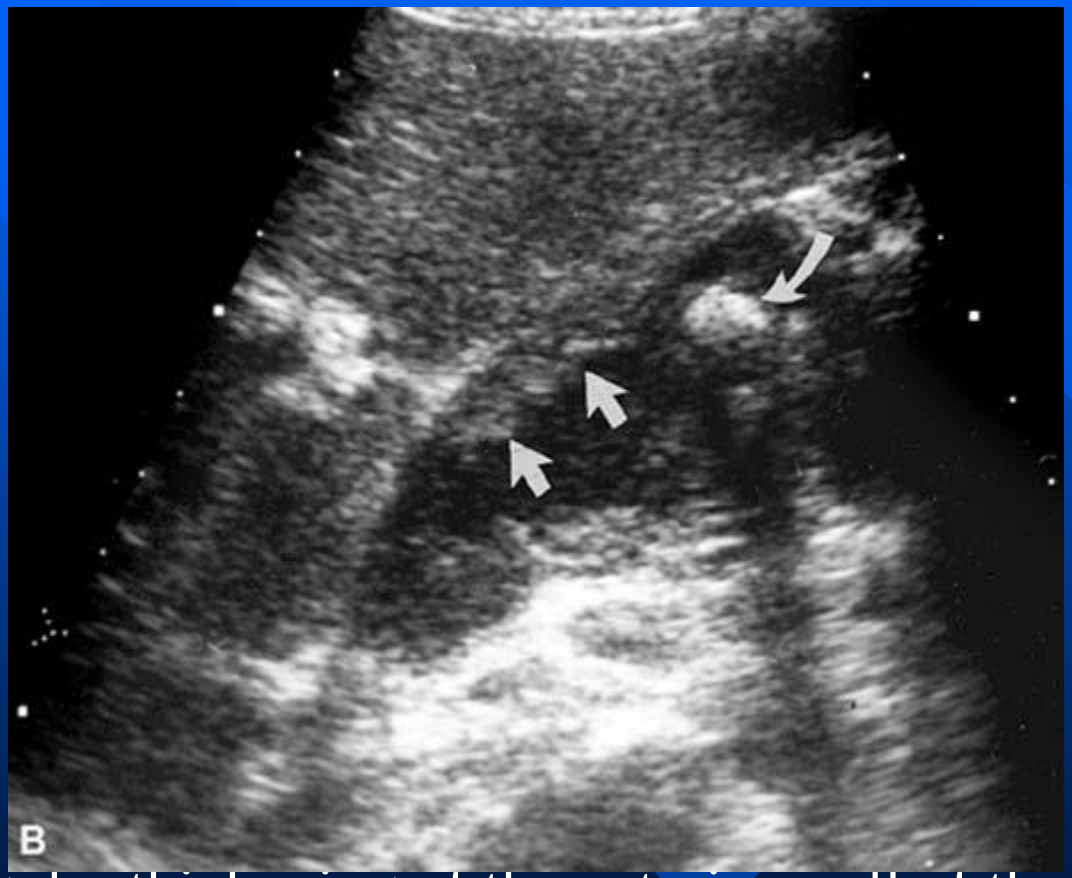

Focal irregular thickening of the anterior wall of the gallbladder (arrows) secondary to carcinoma. Gallstones are also present (curved arrow).

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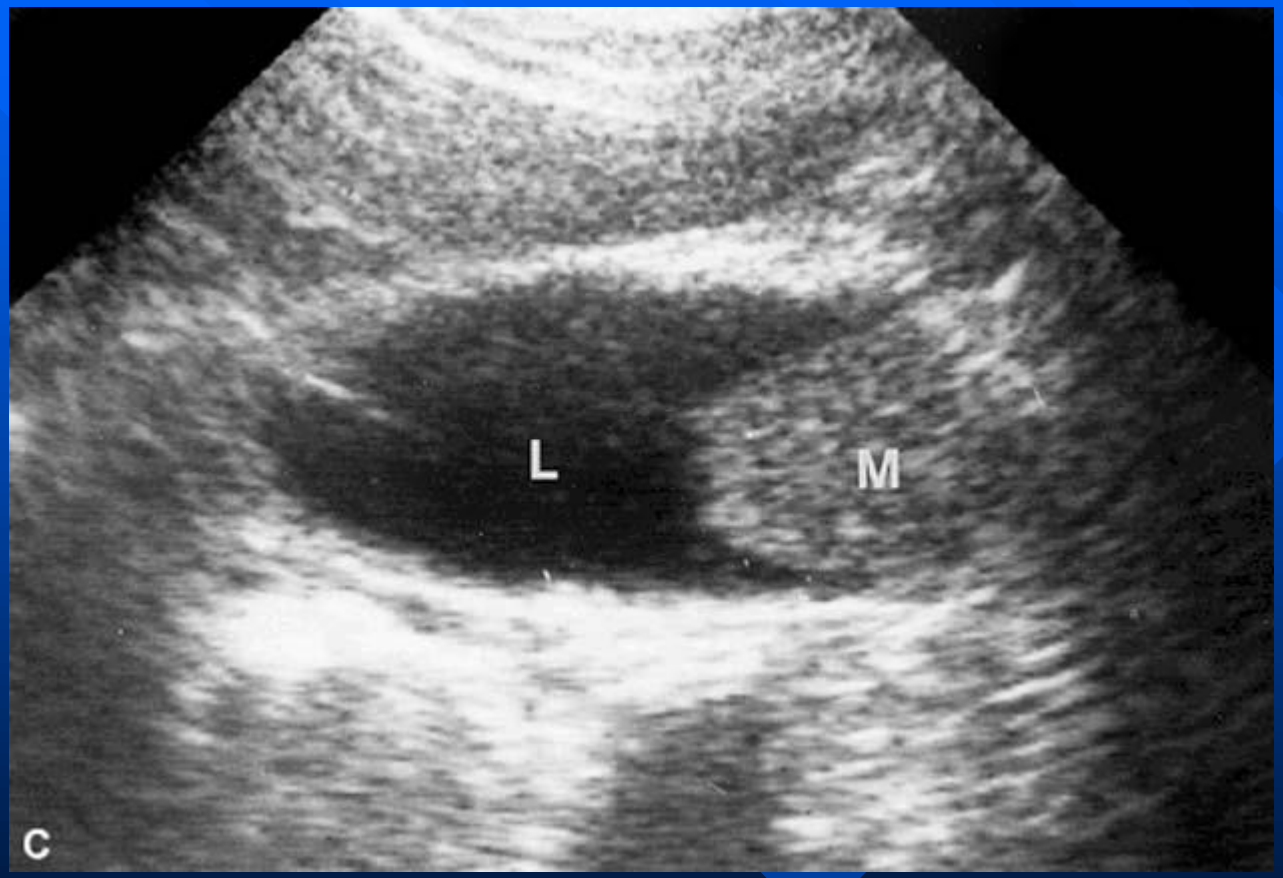

Test

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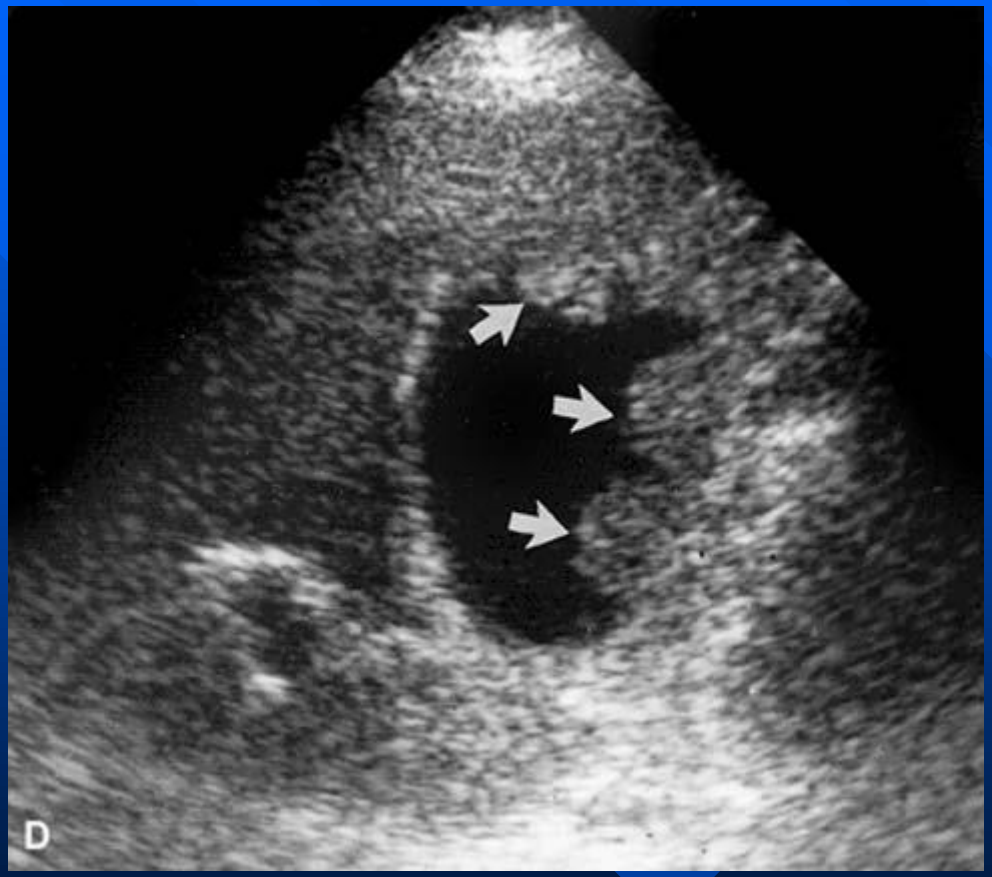

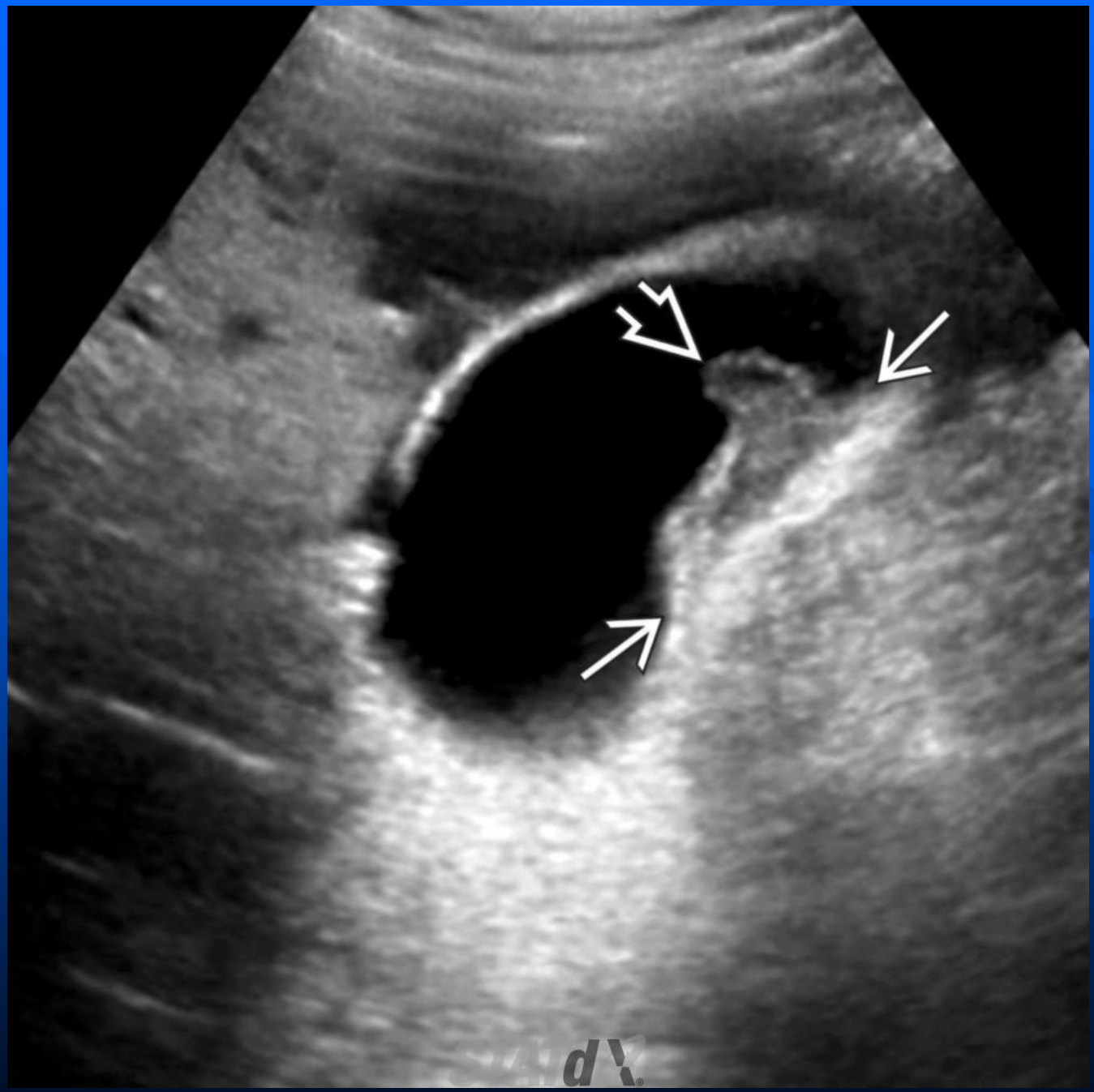

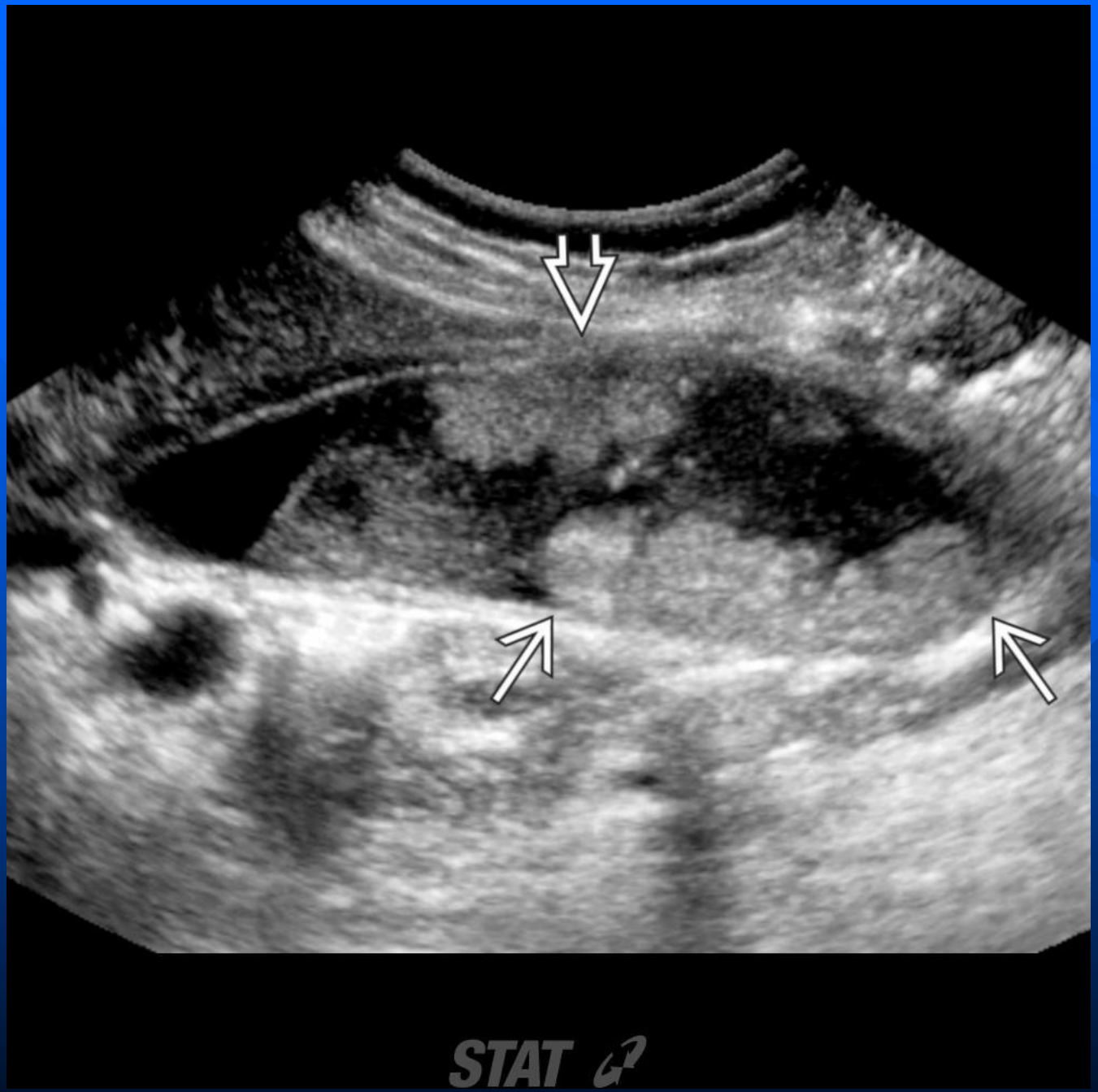
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