



ACG GUIDELINE *Highlights*



Todani classification of bile duct cysts

Focal Liver Lesions

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| Initial Evaluation | Clinical Questions | | Work Up | | | | |
|--|---|---|--|--|---|--|---|
| | <ul style="list-style-type: none">History of previous cancerConstitutional symptomsMedications (OCPs, steroids)IV drugs, alcohol, tattoos, travel, and transfusion history | | <ul style="list-style-type: none">Liver enzymes, tumor markers, viral hepatitisMetabolic syndrome (Insulin resistance, hepatic steatosis)Multiphase contrast-enhanced imaging (CT or MRI)—(SG) | | | | |
| Lesion Type | Solid Liver Lesions | | | | | | |
| | HCA | Features | | Next Steps | | <div><div>1β-catenin mutated HCAs are at a higher risk of malignant transformation. Should be resected regardless of size.</div><div>2HCA in men should be resected regardless of size.</div><div>310+ HCAs is hepatic adenomatosis</div><div>4Risk factors: anabolic steroids, obesity, PCOS, glycogen storage disease, exogenous hormonal therapy in men and women</div></div> | |
| | | Female, <5 cm | | <ul style="list-style-type: none">Stop OCP/IUD & weight lossImaging q 6m for 2yrs then every 1 yr | | | |
| | | Ruptured | | Stabilize then embolize | | | |
| | | >5 cm | | Observe 6-12 months then resect | | | |
| | | >5 cm, unable to resect | | Embolization or ablation | | | |
| | | During pregnancy | | Monitor, treat if >6.5 cm or high-risk features | | | |
| | FNH | <ul style="list-style-type: none">Use multiphase MRI with hepatobiliary-specific agents to distinguish FNH from HA (CG)Can have a central scar; can be confused with FLHCC | | | | HEMANGIOMA | <ul style="list-style-type: none">Avoid resection due to bleeding riskBeware Kasabach-Merritt syndrome |
| | | | | | | | |
| | Lesions with Malignant Potential | | | | | | |
| | Lesion | | Imaging Finding | | | Treatment | |
| | HEHE | | Lollipop sign: vascular/sinusoidal narrowing/obstruction Target sign: three rings (inner, middle, and outer) | | | Surgery Transplant - best outcome | |
| | FLHCC | | MRI with hypointensity on HBP, central scar | | | Surgery - best outcome | |
| | Angiosarcoma | | CT: Hypo-enhancing on all postcontrast phases MRI: Heterogenous on all sequences | | | Very poor prognosis Surgery - best survival | |
| Cystic Liver Lesions | | | | | | | |
| | Simple Cyst | PCLD | MCN-L | IPNB | Choledochal Cysts | Hydatid Cysts | |
| Imaging Findings | US - anechoic MRI: hypodense-T1 | >10-20 simple cysts | MRI: enhancement of septations, and mural nodularity | May include: mass, variable duct dilations (4 morphologies) | MRCP: best test Todani classification APBJ: malignancy risk | US: septated cyst with internal daughter cysts | |
| High Risk Features | Mural nodularity Enhancing lesions | Screen for ADPKD | 20-30% rate to be adenocarcinoma | 40-80% can harbor malignancy | Type I and IV cysts: high malignancy risk | see 🦋 #6 | |
| Treatment | No follow up unless symptomatic | Fenestration, aspiration, and resection | Complete surgical resection - gold standard | Resection of the bile duct with or without hepatectomy | I,IV,V: resection II: cysts excision III: unroofing - ERCP | Medical therapy before surgery or cyst puncture | |
| 5Rim enhancement with washout of contrast on portal venous phase = malignancy on imaging | | | 6Complicated hydatid cysts: those with biliary fistulas, multiseptation, rupture or hemorrhage, secondary infection, percutaneously inaccessible cysts | | | | |
| Benign Lesions | | | | | | | |
| Follow-up Not Required | | Simple cysts | Hemangioma | FNH | Focal fat | Angiolipoma | |
| Follow-up Required | | HCA | Liver abscesses | Mucinous cystic neoplasm | Hydatid/Echinococcal cysts | PCLD Choledochal cyst | |

Most solid liver lesions in patients without risk factors will be benign

ADPKD = Autosomal dominant polycystic kidney disease
APBJ = anomalous pancreaticobiliary junction
CG = Conditional Grade

FLHCC = Fibrolamellar hepatocellular carcinoma
FNH = focal nodular hyperplasia
HCA = hepatic adenoma
HEHE = hepatic hemangioendothelioma

IPNB = Intraductal papillary mucinous neoplasm of the bile duct
MCN-L = mucinous cystic neoplasm of the liver
OCP = oral contraceptives

PCOS = polycystic ovary syndrome
PCLD = polycystic liver disease
SG = Strong Grade
US = ultrasound

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