ONE-PAGER FOR IMAGING FINDINGS OF THE LIVER YOU MAY USE TO IMPROVE YOUR PATIENT'S LIVER HEALTH

INTRODUCTION

Incidental findings in radiological imaging of the liver are common - that is why it is important all radiologic imaging reports be interpreted in the context of your patient's overall clinical situation. For example, the single finding of lobulation or nodularity on the superior surface of the liver has only 60% sensitivity (40% of the time, it misses cirrhosis in patients who have cirrhosis) and 90% specificity (which means that 10% of time it reports cirrhosis when there is only non-progressive liver condition such as simple steatosis of the liver). There are other radiological findings that improve accuracy especially in asymptomatic patents including nodular hepatic contour on the undersurface of the liver, reduction in the total volume of the liver including an enlarged caudate lobe and left lobe lateral segment, atrophy of the right and left lobe medial segments, widening of the fissures and the porta hepatis, and regenerative nodules. There are secondary findings related to portal hypertension including varices, ascites, splenomegaly, fatty infiltration in the omentum and mesentery, edematous wall thickening of gastrointestinal tracts due to venous congestion, and intrahepatic arterioportal or arteriovenous shunts.

NEXT STEPS

An approach based on the prevalence of asymptomatic chronic liver disease can help clinicians efficiently identify common and serious liver disease. The most common causes of cirrhosis in Nova Scotia are steatotic liver disease (with or without metabolic dysfunction) and alcohol related liver disease. Uncommon causes include hepatitis B and C, and hereditary hemochromatosis. Rare causes include alpha1-antitrypsin deficiency, immune-based liver diseases, and Wilson disease (in individual younger than 45 years of age). The 5-year survival of asymptomatic patients with cirrhosis of the liver is over 95%. It is important to identify treatable causes of cirrhosis to halt or slow down the progression of liver disease to failure and to reduce the risk for development of liver cancer.

For now, we can see your patient with chronic liver disease with:

1) Clinically significant ascites due to liver disease (in spite dietary sodium restriction and initiation of combination of spironolactone and furosemide).
2) Moderate to severe liver dysfunction with INR greater than 1.7 (off warfarin/DOACs), and/or total bilirubin higher than 50 umol/L) for more than 1 month.
3) Treatable conditions including viral hepatitis (including HBV and HCV), immune based diseases (such as AIH, PSC, and PBC) or genetic conditions (including hemochromatosis, Wilson's, alpha-1-antitrypsin deficiency, and polycystic liver).

In your patients with ongoing alcohol use it is important you counsel them that drinking alcohol would worsen outcomes in the background liver disease (for low risk drinking guidelines see: http://www.ccsa.ca/Resource%20Library/2012-Canada-Low-Risk-Alcohol-Drinking-Guidelines-Brochure-en.pdf)

Advise your patients lifestyle and dietary change if they have high BMI, especially if greater than 30 and/or diabetes mellitus: https://www.nhlbi.nih.gov/health/educational/lose_wt/BMI/bmicalc.htm
High BMI is a major confounder for progressive liver disease. If your patient's BMI is high, the initial evaluation should include an assessment for metabolic dysfunction and insulin resistance (i.e., waist circumference, blood pressure, fasting lipid level, and fasting glucose or A1C level).

Note that there is very little hepatologists can do for patients with ongoing alcohol use or with high BMI or poorly controlled diabetes mellitus.

ADDITIONAL INVESTIGATIONS

Here are additional tests you may consider:

1. Bloodwork to screen for other causes of liver disease: alpha 1 anti-trypsin, HFE gene test if iron percent saturation is more than 40% or ferritin is greater than 1000 ug/L, ceruloplasmin in patients less than 40 years, AMA (if patient has elevated alkaline phosphatase), Anti-smooth muscle antibody and Immunoglobulins in patients with elevated transaminases and check for Hepatitis C antibody and Hepatitis B surface antigen.
2. Monitor liver enzymes (ALT, AST, ALP), liver functions (INR, Albumin and Total Bilirubin), CBC, and creatinine every 1-2 months for at least 4-6 months then every 6-12 months.
3. Once every 1-2 years calculate FIB-4 score based on patient's age, ALT, AST, and platelet counts https://www.hepatitisc.uw.edu/page/clinical-calculators/fib-4 It is unlikely, your patient has advanced liver disease if their FIB-4 score less than 1.5 in individuals between 36-65 or FIB-4 score less than 2.0 in individuals 65 and older

Please note that your local general internal medicine specialist has expertise in the initial investigation and management of deterioration of your patient's liver health. We can help them care for your patient. The article titled CIRRHOSIS: DIAGNOSIS AND MANAGEMENT published in the American Family Physician journal is an excellent resource for you https://www.aafp.org/pubs/afp/issues/2019/1215/p759.html . In some patient you may consider a virtual appointment with a hepatologist, please sign into VirtualHallway.ca .