AGA Clinical Practice Update: Diagnosis and Management of Nonalcoholic Fatty Liver Disease in Lean Individuals: Expert Review

By Hima Veeramachaneni

The Emoroid Digest

@EmoryGastroHep

Nonalcoholic fatty liver disease (NAFLD) = leading etiology of chronic liver disease (25% of population) → 7-20% of patients with NAFLD have lean body habitus

- 1 in 4 with NAFLD have nonalcoholic steatohepatitis (NASH) → ↑ morbidity & mortality 2' to cirrhosis complications, hepatic encephalopathy (HE), & hepatocellular carcinoma (HCC)

BPA 1: Diagnosis of lean NAFLD = BMI <25 kg/m^2 + NAFLD in non-Asian race **OR** BMI <23 kg/m^2 + NAFLD in Asian race

BPA 2: Evaluate comorbid conditions in lean NAFLD patients

- Comorbid conditions: type 2 diabetes mellitus (DM2), dyslipidemia (DLP), & hypertension (HTN)
- Lean NAFLD patients compared to non-lean NAFLD patients have different bile salt metabolism, genetic variants, & cardiometabolic disease

BPA 3: Lean NAFLD individuals should be risk stratified for hepatic fibrosis to identify advanced fibrosis or cirrhosis

- In lean NAFLD, risk for progression of liver disease is independent of weight gain

BPA = Best Practice Advisory

BPA 4 & 5: Should ONLY screen lean individuals with

1. >40 years old + DM2
2. Metabolic diseases (DM2, DLP, HTN)
3. Elevated liver biochemical tests
4. Incidental hepatic steatosis

BPA 6: Routinely query all lean NAFLD patients regarding alcohol consumption

- Drinks/week: >14 for women **OR** >21 for men → consider alcoholic liver disease (ALD)
- However, alcohol use even less than this contributes to liver fat → ↑ NAFLD odds with:
  - ↑ # of drinking days/week
  - ↑ maximum # of drinks in 24 hours
  - Binge drinking behavior
- Biomarkers to r/o ETOH use: urine ethyl glucuronide & blood phosphatidylethanol

BPA 7 & 8: Rule out other causes of liver disease in lean NAFLD patients **BUT** inadequate evidence to support routine genetic variant testing

Causes

- Lipodystrophy: HIV & non-HIV
- Pregnancy: acute fatty liver of pregnancy, HELLP
- Liver-specific: Hep C genotype 3, Wilson's disease, A1 antitrypsin
- Genetic: lysosomal acid lipase deficiency, familial hypobetalipoproteinemia
- Medications: methotrexate, tamoxifen, amiodarone, steroids, valproic acid, tetracycline
- Others: TPN, hypothyroidism, vinyl chloride, short bowel syndrome, Celiac, herbicides

BPA 9: Liver biopsy should be considered **IF** there is uncertainty regarding contributing causes of liver injury &/or fibrosis stage

Long MT, Noureddin M, Lim JK. AGA Clinical Practice Update: Diagnosis and Management of Nonalcoholic Fatty Liver Disease in Lean Individuals: Expert Review. Gastroenterology. 2022 Sep;163(3):764-774.e1. doi: 10.1053/j.gastro.2022.06.023.

BPA 10 & 11 : Serum indices & imaging techniques are alternatives to liver biopsy at time of diagnosis

- If 1st noninvasive test is indeterminate → perform 2nd type of test to confirm stage & prognosis
- Repeat @ intervals of 6mo-2yrs based on fibrosis stage & intervention response

- Serum indices: NAFLD fibrosis score, fibrosis-4 score (FIB-4 score)
- Imaging techniques: transient elastography (TE), magnetic resonance elastography (MRE)

BPA 12: In lean NAFLD, recommend lifestyle interventions (exercise*, diet modification, & avoidance of fructose/sugar-sweetened drinks*) to target **goal 3-5% weight loss**

*= independent factors for liver fat reduction regardless of weight loss

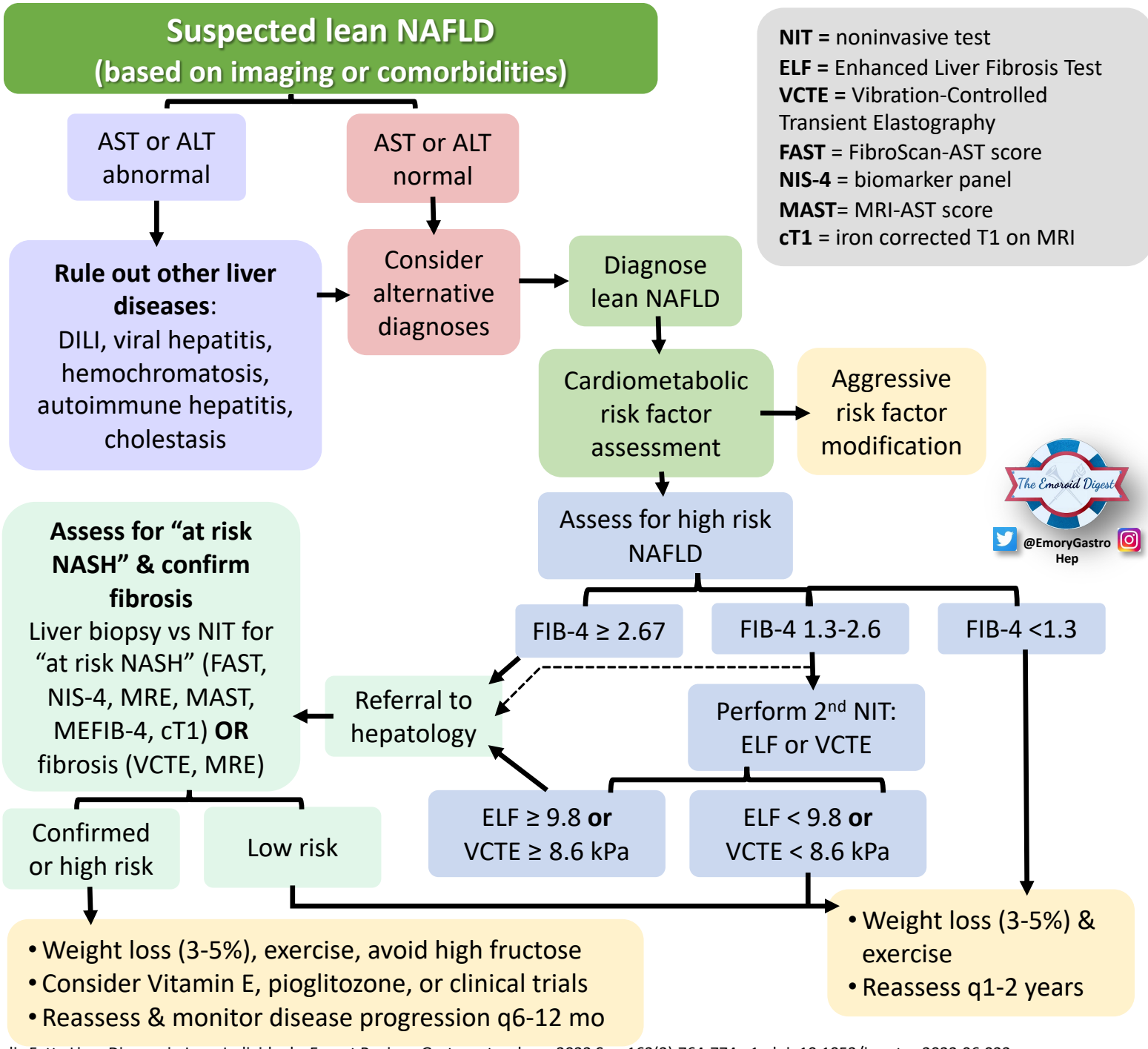
BPA 13 & 14: In biopsy proven lean NASH, consider:

- **PO Vitamin E 800 IU daily** = if no DM2 or cirrhosis
- **PO pioglitazone 30mg daily** = if no cirrhosis

- Further studies needed for role of glucagon-like peptide-1 agonists & sodium-glucose cotransporter-2 inhibitors in lean NAFLD

BPA 15: HCC surveillance w/ abdominal ultrasound +/- AFP twice per year for lean NAFLD cirrhosis

NIT = noninvasive test
ELF = Enhanced Liver Fibrosis Test
VCTE = Vibration-Controlled Transient Elastography
FAST = FibroScan-AST score
NIS-4 = biomarker panel
MAST= MRI-AST score
cT1 = iron corrected T1 on MRI



Long MT, Noureddin M, Lim JK. AGA Clinical Practice Update: Diagnosis and Management of Nonalcoholic Fatty Liver Disease in Lean Individuals: Expert Review. Gastroenterology. 2022 Sep;163(3):764-774.e1. doi: 10.1053/j.gastro.2022.06.023.