Fatty Liver for the Fearless

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NO DISCLOSURES
Objectives

1. Introduce “Fib4” as a guide for further testing and hepatology referral
2. Review non-invasive tests for cirrhosis
3. Review the drug pipeline for the treatment of fatty liver disease
1. “Fib4” as a guide for further testing and hepatology referral
Progression of Fatty Liver Disease

(*) Fibrosis progression rates: 7-14 years/stage
“Fib4” Reflects Clinical Observations

Fibrosis progression is Age-dependent

Platelet Count decreases With Fibrosis Progression

\[(\text{age} \times \text{AST}) / \text{platelets} \times \sqrt[3]{\text{ALT}}\]

AST:ALT Ratio Increases With Fibrosis Progression

Free download:
MDCalc

Fib4 <1.3 Rules out Significant Fibrosis
Use of Fib4 in the Workup of Fatty Liver Disease

Suspected Fatty Liver Disease

Calculate Fib-4

Fib4 ≤ 1.3
- No Advanced Disease

Fib4 >1.3 and ≤ 2.67
- Indeterminate

Fib4 >2.67
- Advanced Fibrosis

Order Fibroscan and/or ELF test

Fibroscan <7.9 kPa or ELF ≤ 9.3
- Lifestyle Modification Education
  - Retest in 2-3 (7?) years

Fibroscan ≥7.9 kPa or ELF > 9.3
- Refer to GI/Hepatology
2. Review non-invasive tests for cirrhosis
Traditional Methods to Diagnose Cirrhosis

Liver Biopsy

Imaging
Elastography: Physical Measure of Fibrosis

Movie will be inserted here (sent in separate file)

video: Kenneth J. Chang, UC Irvine
Transient Elastography ("Fibroscan")

Main indications: Abnormal Fib4, hepatology evaluation ("5th vital sign")
Acoustic Radiation Force Imaging (ARFI)

Main indications: fibroscan failure, inconclusive results, need for imaging

Courtesy of C. Donaldson, M.D.
Magnetic Resonance Elastography (MRE)

Main indications: fibroscan failure, inconclusive results, need for high-resolution imaging

Venkatash SK et al. J. Magn. Reson. Imaging
3. Review the drug pipeline for the treatment of fatty liver disease
NASH: Drug Pipeline (September, 2019)

PHASE I
14 medications

PHASE II
30 medications

PHASE III
4 medications

- Cenicrivirox
- Elafibranor
- Obeticholic acid
- Selonsertib
Improvement of NASH fibrosis with Obeticholic Acid

Younossi Z et al. Journal of Hepatology 2019; 70: e5 (September, 2019)
Obeticholic Acid: Mechanisms

OCA: FXR Agonist
100x more potent than chenodeoxycholic acid (natural agonist)

Regulates:
- Cholesterol and lipoprotein synthesis
- Bile acid synthesis
- Immune and inflammatory responses
- Fibrogenic responses
Summary

1. Fib4 testing is a useful test to triage your fatty liver disease patients
2. Several non-invasive tests are available at NorthShore to diagnose liver cirrhosis
3. The first generation of anti-NASH drugs is approaching FDA approval