# Fatty Liver Case Presentations

Chukwuma Egwim, MD

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# Case # 1 – Fatty Liver

- 38 year old obese woman referred for evaluation of elevated liver enzymes discovered on routine laboratory studies
- She has no complaints other than occasional mild fatigue
- No other known medical problems
- No prescription or OTC medications (including weight loss drugs)
- She drinks alcohol on holidays only (no more than one glass of wine each time)

**Lab values**

- ALT: 75
- AST: 70
- Total bilirubin: 0.7
- Alk P: 116
- Albumin: 4.0
- INR: 0.9
- WBC: 7.1
- Hgb: 13.0
- Platelets: 320k
- BMI: 35
- Fasting glucose:99

- No abdominal distension, tenderness or organomegaly detected on physical examination. No stigmata of chronic liver disease
- Electrolytes, lipids and TSH are all normal
- Extensive workup for various liver diseases including: HCV and HBV serology, autoimmune markers, iron studies, ceruloplasmin, and alfa-1 antitrypsin are normal/negative

# Case # 1 – Fatty Liver

• Liver ultrasound - mild hepatomegaly, increased liver echogenicity consistent with diffuse fatty infiltration. Normal spleen and portal vein

•Your working diagnosis is Nonalcoholic steatohepatitis (NASH)

What is your next step in evaluation or management?

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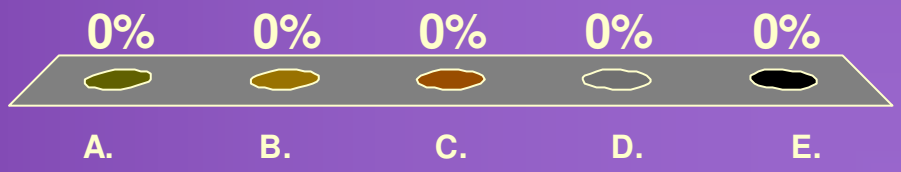
A. Obtain a liver biopsy to confirm your diagnosis
B. Proceed with your treatment plan as the information you have is sufficient.
C. Order a noninvasive marker for hepatic fibrosis.
D. Send patient for magnetic resonance spectroscopy of the liver
E. ✓ Both B or C



# Case # 2 – Fatty Liver

- 46 year old man with cirrhosis found on abdominal CT scan to evaluate intermittent abdominal pain
- He has no history of jaundice, abdominal distention, ankle edema or symptoms of gastrointestinal bleeding
- His medical history includes diabetes mellitus, dyslipidemia, hypertension and GERD

**Lab values**

- ALT: 64
- AST: 100
- Total bilirubin: 1.2
- Albumin: 3.7
- INR: 1.0
- WBC: 6.5
- Hgb: 12.0
- Platelets: 105k

- Medications include insulin and atorvastatin

- Liver biopsy revealed steatosis, lobular inflammation, with ballooning degeneration, and stage 4 fibrosis (cirrhosis)

In addition to dietary modification and exercise, you will recommend?

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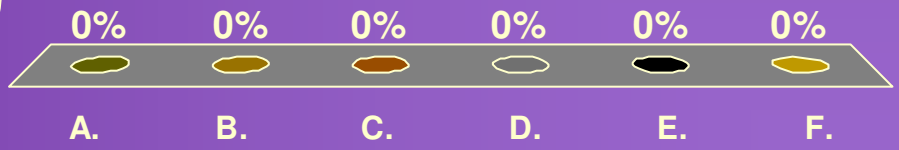
A. Dietary modification and exercise alone
B. Trial of Orlistat
C. Referral for Lap. band gastroplasty
D. Addition of Pioglitazone to his diabetes regimen
E. Vitamin E
F. None of the above...even diet and exercise won't help



# End of Case Discussions

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- 57 year old with history of HBV
- Pt resists being treated because of side effects of medication (4/2007)
- No biopsy has been done at this point

**Lab values**

- CBC: normal
- Platelet count: 147k/cmm
- Alpha protein: normal
- Alkaline phosphate: normal
- Serum transaminases 69 U/L
- ALT: 122 U/L
- HBV DNA: unavailable
- HbsAg, HbeAg: positive
- Anti-HCV, anti-HDV: negative
- HIV: negative

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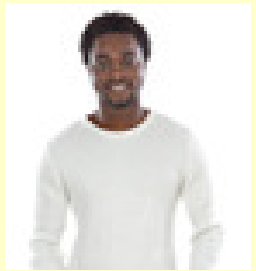

# Case #1

- 45 year old African American man referred with chronic hepatitis C.

- Diagnosed 2 months ago after complaints of fatigue and discovery of abnormal liver enzymes.
- Treatment naïve
- No other chronic medical illnesses
- BMI 29

# Case #1

- Laboratory studies
  - AST 89, ALT 94, Tbili 0.8, albumin 4.1, INR 0.9
  - WBC 5.1, Hgb 13.0, platelets 201k
  - anti-HCV Ab positive,
  - HCV RNA 1.5 million IU/mL
  - genotype 1a

- Biopsy showed grade 2 inflammation and stage 3 fibrosis.

What treatment would you recommend?

A. Peg-IFN/RBV for 48 weeks (standard dose)

B. Peg-IFN/RBV for 72 weeks (standard dose)

C. Duration of therapy to be determined by response at week 4 or 12

D. PEG-IFN and high dose RBV (1600mg per day or higher)

E. No treatment at this time / Await future therapies

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- The patient in Case #1
- Treatment initiated with PEG-IFN and RBV (weight based)
- At week # 12, he remains virus positive, with a 2.5 log IU drop in HCV RNA
- Tolerating therapy with few side effects

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# How would you proceed?

A. Continue Peg-IFN/RBV with a goal of 48 weeks

B. Continue Peg-IFN/RBV with a goal of 72 weeks (as long as virus negative by week # 24)

C. Switch to consensus interferon

# Case # 2

- 38 year old caucasian woman referred with a diagnosis of chronic hepatitis C, genotype 1a

- Treated last year with PEG-IFN/RBV for a total of 48 weeks.
- Cleared virus by week #14 and remained negative at the end of treatment.
- Found to have relapsed 7 months after completion of therapy.

# Case # 2

- There were no treatment interruptions or dose reductions.
- She experienced depression which she reports was managed with an antidepressant.

- Laboratory studies
  - AST 45, ALT 60, Tbili 0.6, albumin 3.9, INR 1.0
  - WBC 8.4, Hgb 12.3, platelets 320 k
  - HCV RNA 3,200 IU/mL

- You perform a liver biopsy which reveals grade 2 inflammmation and stage 2 fibrosis.

What treatment would you recommend?

A. Trial of another PEG-IFN with RBV for 48 weeks.
B. Consensus interferon with Ribavirin
C. PEG-IFN with RBV for 72 weeks.
D. Maintenance treatment with half dose PEG-IFN.
E. No treatment at this time. Await future therapies.

# Case #3

- 38 year old obese woman referred for evaluation of elevated liver enzymes discovered on routine laboratory studies.
- She has no complaints other than occasional mild fatigue.
- No other known medical problems.
- No prescription or OTC medications (including weight loss drugs)
- She drinks alcohol on holidays only (no more than one glass of wine each time)

# Case #3

- BMI 35
- No abdominal distension, tenderness or organomegaly detected on physical examination. No stigmata of chronic liver disease.
- Laboratory studies
  - AST 70, ALT 75, Alk P 116, Tbili 0.7, albumin 4.0, INR 0.9
  - WBC 7.1, Hgb 13.0, platelets 320k
  - Fasting glucose 99, electrolytes, lipids and TSH normal.
  - extensive workup for various liver diseases including: HCV and HBV serology, autoimmune markers, iron studies, ceruloplasmin, and alfa-1 antitrypsin are normal/negative.

- Liver ultrasound - mild hepatomegaly, increased liver echogenicity consistent with diffuse fatty infiltration. Normal spleen and portal vein.

- Your working diagnosis is Nonalcoholic steatohepatitis (NASH)

What is your next step in evaluation or management?

A. Obtain a liver biopsy to confirm your diagnosis

B. Proceed with your treatment plan as the information you have is sufficient.

C. Order a noninvasive marker for hepatic fibrosis.

D. Send patient for magnetic resonance spectroscopy of the liver

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# Case #4

- 46 year old man with cirrhosis found on abdominal CT scan to evaluate intermittent abdominal pain.
- He has no history of jaundice, abdominal distention, ankle edema or symptoms of gastrointestinal bleeding.
- His medical history includes diabetes mellitus, dyslipidemia, hypertension and GERD.

- Medications include insulin and atorvastatin
- Laboratory studies
  - AST 100, ALT 64, Tbili 1.2, albumin 3.7, INR 1.0
  - WBC 6.5, Hgb 12.0, platelets 105k
- Liver biopsy revealed steatosis, lobular inflammation, with ballooning degeneration, and stage 4 fibrosis (cirrhosis)

In addition to dietary modification and exercise, you will recommend:

A. Dietary modification and exercise alone
B. Trial of Orlistat
C. Referral for Lap. band gastroplasty
D. Addition of Pioglitazone to his diabetes regimen
E. Vitamin E
F. None of the above...even diet and exercise won't help