

# Pretreatment Evaluation

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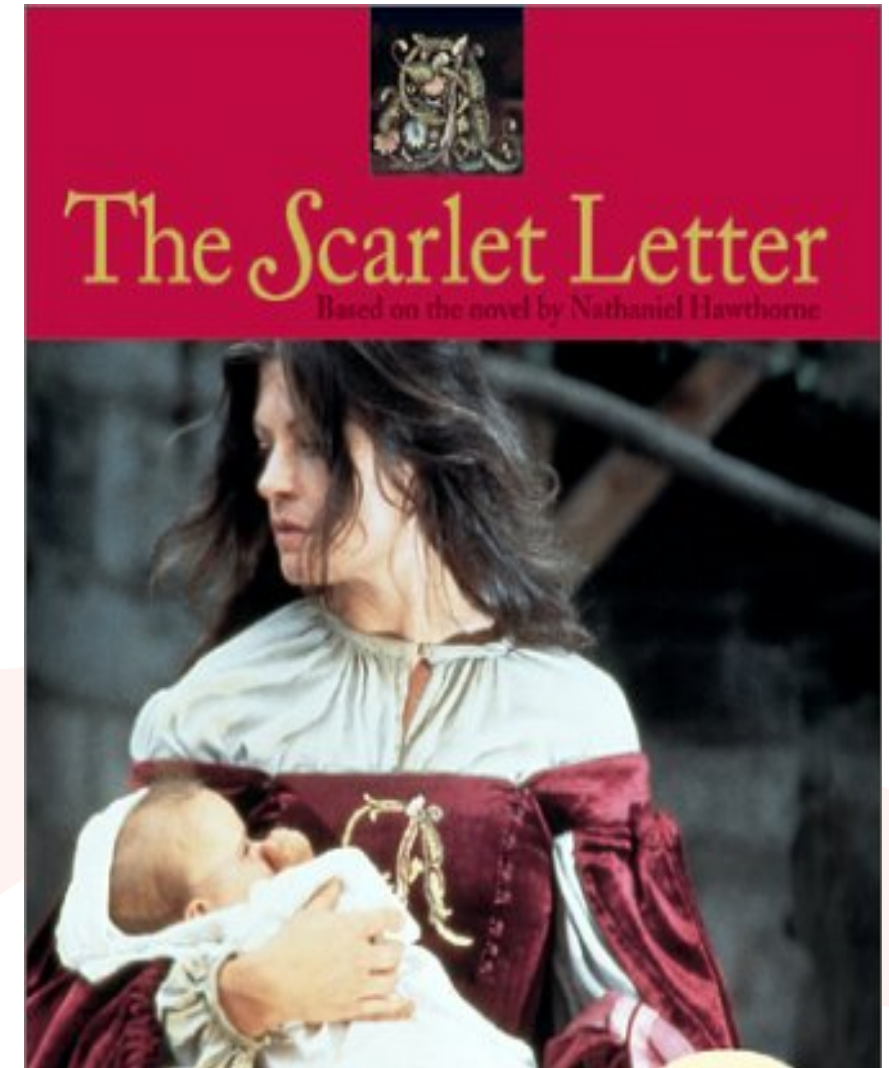
Vanderbilt University Medical Center

# Disclosures

I have no financial disclosures.

# A Golden Opportunity

- Intimate partnership with a patient over a few months
- Modern miracle of medicine
- Almost a certain cure



# Clinical Case: Mr. C

- A 60 year old gentleman is referred to you because of a + HCV Ab test



- HCV 5,320,500 copies/ML



# Clinical Case: Mr. C

- A 60 year old gentleman with active HCV
- Past Medical History
  - Hypertension
  - Hyperlipidemia
  - Obesity
  - GERD



# Clinical Case: Mr. C

- Medications
  - Simvastatin 40 mg daily
  - Lisinopril 10 mg daily
  - Omeprazole 20 mg PO BID
  - Occasional Tylenol



# Clinical Case: Mr. C

- Social History
  - Drinks 2-3 beers a night
  - Non-smoker
  - Occasional MJ
  - IVDU 20 years prior



# Initial Goals of Our Evaluation

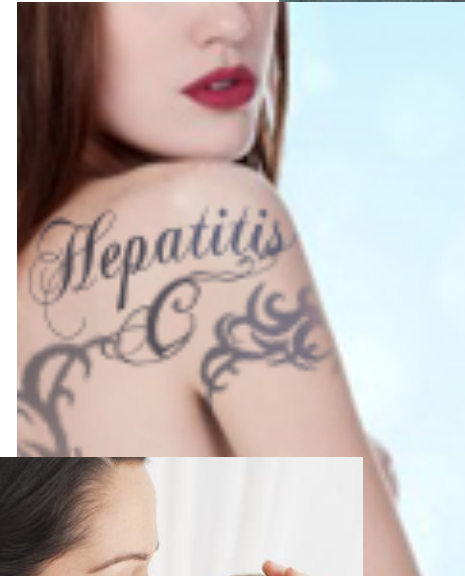
## History of Present Illness

- How the patient got HCV
- How long they've had it
- Are they symptomatic

# History of Present Illness

How did the patient acquire HCV

- Born between 1945-1965
- Injection drug use
- Blood products before 1992
- Tattoos
- MSM
- Vertical Transmission



# Fail to identify HCV Risk Factor

45%

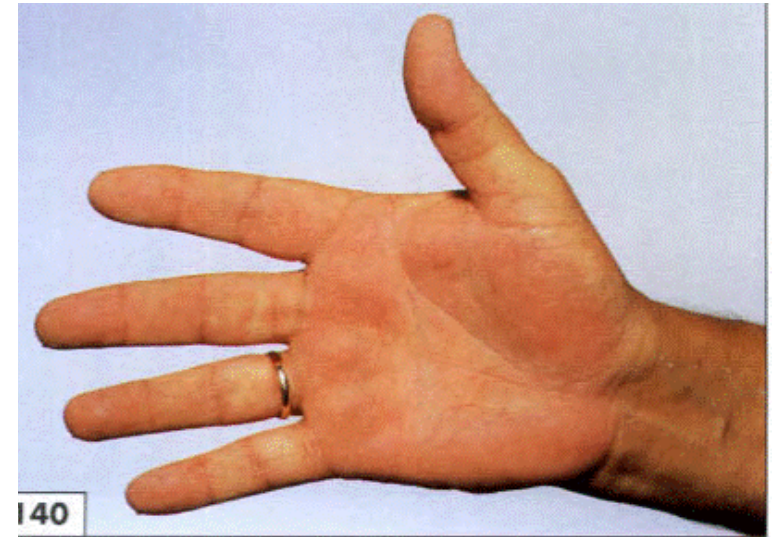
# History of Present Illness

- Is the patient symptomatic?
- Symptoms of acute HCV
  - Fever
  - Fatigue and anorexia
  - Nausea and vomiting
  - Abdominal pain
  - Jaundice, dark urine, clay-colored stools



# History of Present Illness

- Is the patient symptomatic?
- Symptoms of chronic HCV
  - Often asymptomatic
  - Insomnia, depression, mental status changes, weight loss,
  - Fatigue, weight loss, arthralgias
  - Extrahepatic - vasculitis and renal disease
  - Cirrhosis and hepatocellular carcinoma



# Physical Exam

- Head Eye Ears Nose Throat
  - Encephalopathy and asterixis
  - Scleral icterus
  - Nasal burns/ulcers
  - Oral thrush



# Physical Exam

- Chest
  - Signs of heart failure
  - Spider angiomas over the chest
  - Gynecomastia
- Abdomen
  - Liver span
  - Palpable spleen
  - Ascites
  - Caput medusae



# Physical Exam

- Skin findings
  - Nail changes
  - Palmar Erythema
  - Track marks



Muehrcke Lines



Terry's Nails

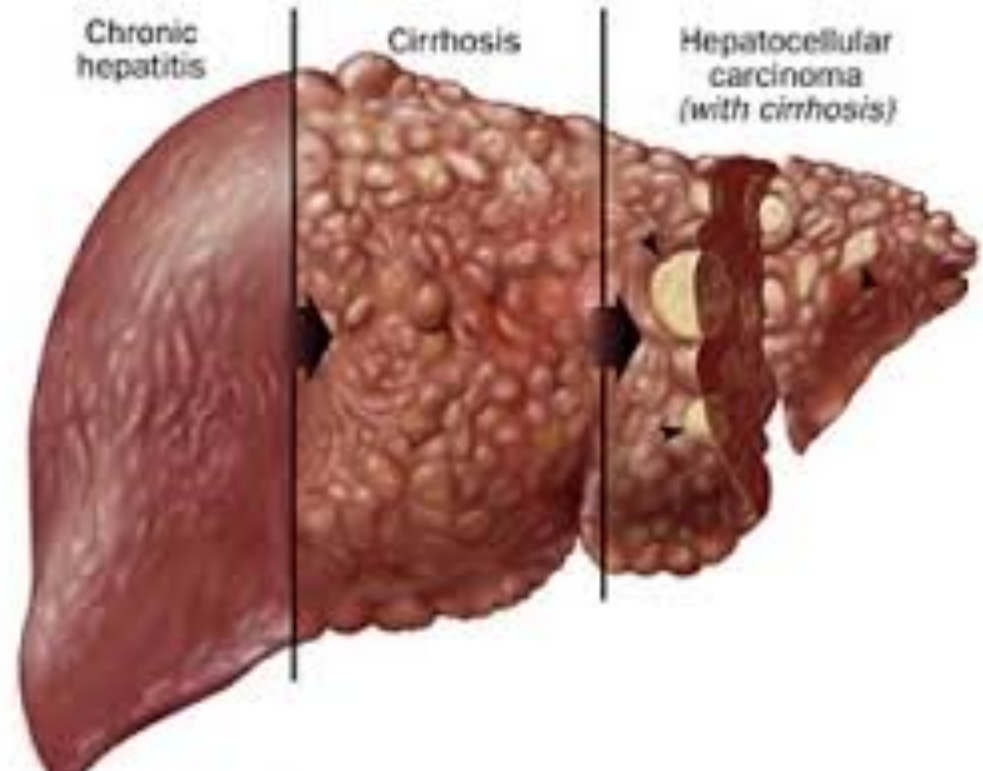
# Initial Goals of Our Evaluation

## History of Present Illness

- How the patient got HCV
- How long they've had it
- Are they symptomatic
- What do you see on physical exam

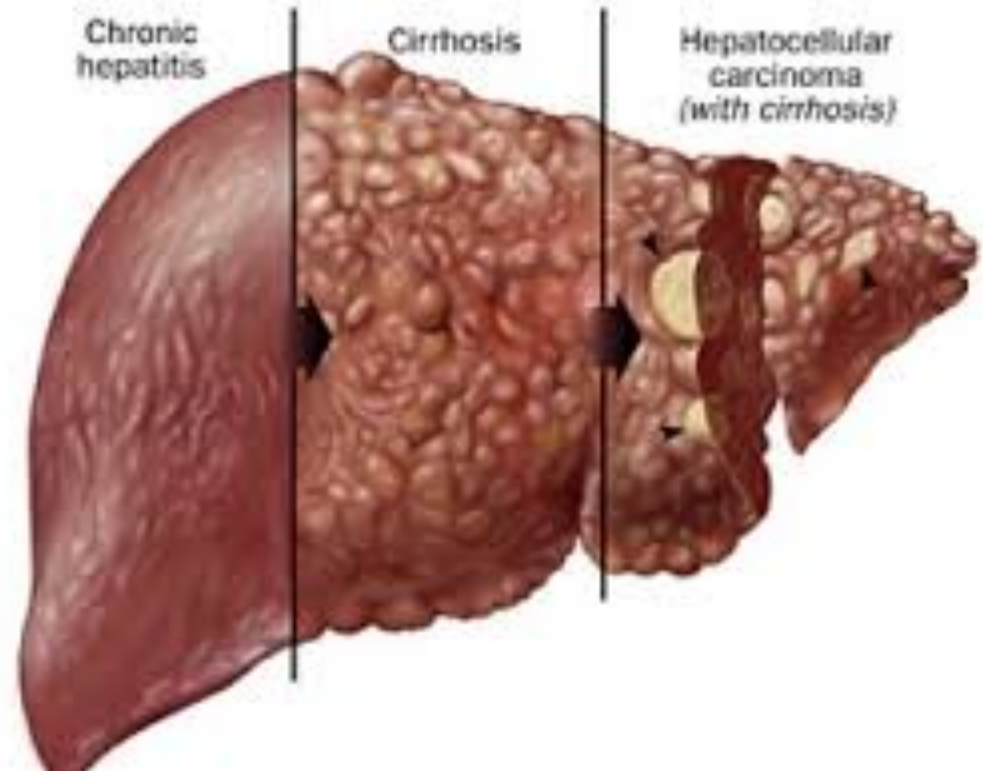
# Further Goals of Our Evaluation

- What is the urgency of treatment?
  - Likelihood of progression - comorbidities
  - Current stage of liver disease
- Is the patient ready?
  - Will they be compliant with treatment
  - Are they at risk for re-infection



# Further Goals of Our Evaluation

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# What comorbidities would accelerate liver disease?

- Alcoholism
- Nonalcoholic Steatohepatitis (NASH)
- Diabetes
- Hepatitis A or B
- HIV

# Clinical Case: Mr. C

- Past Medical History

- Hypertension
- Hyperlipidemia
- Obesity

- Family History

- Mother – diabetes
- Father – diabetes, coronary artery disease

- Social History

- Drinks 2-3 beers a night
- Non-smoker
- Occasional MJ
- Prior IVDU

# AUDIT – Alcohol Use Disorders Identification Test



## AUDIT-C Questionnaire for Detecting Alcoholism

**1. How often do you have a drink containing alcohol?**

- ☐ a. Never
- ☐ b. Monthly or less
- ☐ c. 2-4 times a month
- ☐ d. 2-3 times a week
- ☐ e. 4 or more times a week

Men  $\geq 4$

**2. How many standard drinks containing alcohol do you have on a typical day?**

- ☐ a. 1 or 2
- ☐ b. 3 or 4
- ☐ c. 5 or 6
- ☐ d. 7 to 9
- ☐ e. 10 or more

Women  $\geq 3$

**3. How often do you have six or more drinks on one occasion?**

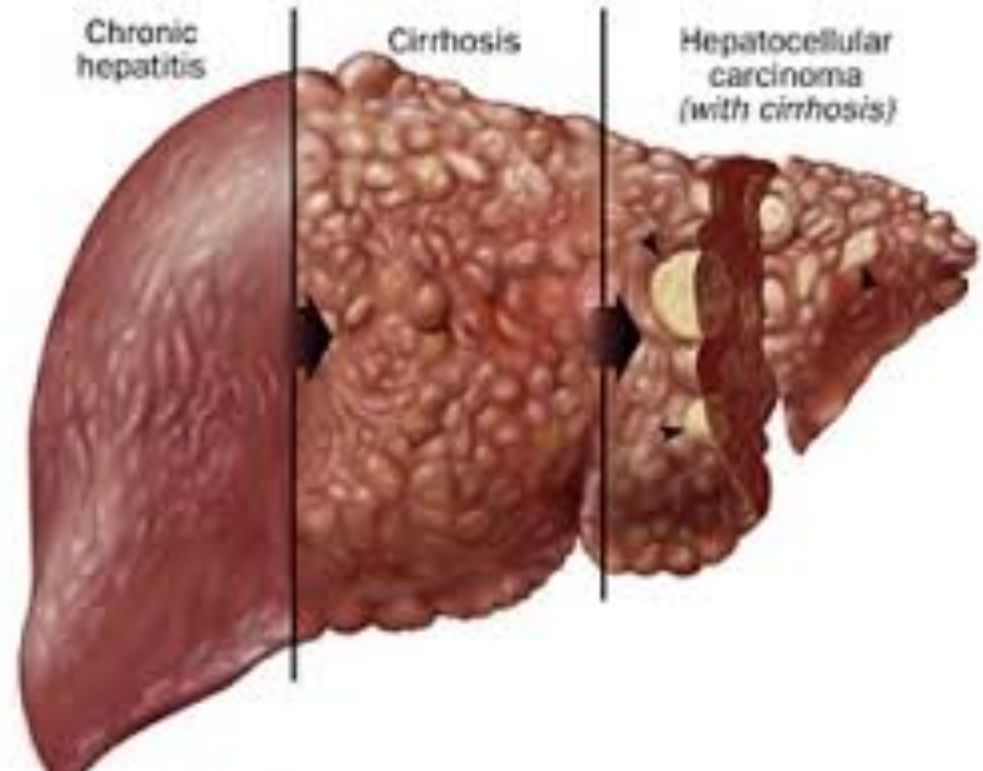
- ☐ a. Never
- ☐ b. Less than monthly
- ☐ c. Monthly
- ☐ d. Weekly
- ☐ e. Daily or almost daily

# Lab

- HCV RNA quant
- HCV genotype
- CBC w/ diff
- BMP
- LFT's
- INR
- Urine drug screen
- Hep B serologies
- Hep A serologies
- HIV
- HgA1c
- Vitamin D

# Further Goals of Our Evaluation

- What is the urgency of treatment?
  - Likelihood of progression - comorbidities
  - **Current stage of liver disease**
- Is the patient ready?
  - Will they be compliant with treatment
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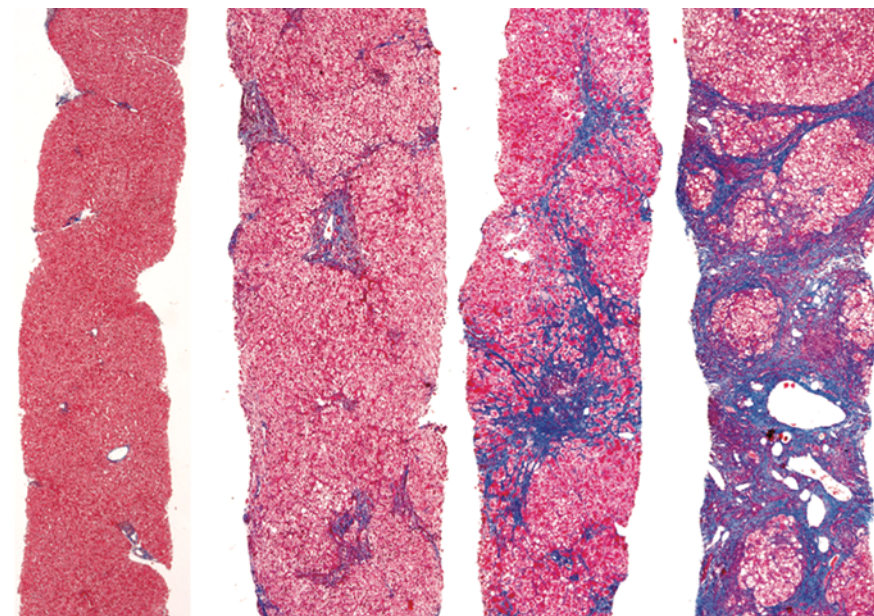
# Staging Liver Disease

- Importance of Staging
  - Identify patients with greatest need for therapy
  - Identify patients for cirrhosis-specific care

# Staging Liver Disease

- Types of Staging
  - Liver biopsy (gold standard)
  - Biomarkers
  - Alternative modalities - elastography

# Liver Biopsy



- Gold standard
- Invasive and requires a proceduralist
- Inaccurate staging up to 20% of the time
- May lead to diagnosis of other cause of liver disease

# Biomarker Testing to Stage Liver Fibrosis

- Non invasive
- Sensitivity and specificity is low for identifying specific stages of fibrosis
- Multiple scoring systems and proprietary tests available but vary in utility
  - APRI
    - AST-To-Platelet Ratio Index
    - $[(AST/ULN)/PLT] \times 100$
  - FIB-4 Index
    - $Age \times AST / [PLT \times (ALT)^{1/2}]$
  - Fibrosure
    - 10 biochemicals, age, gender, height, and weight, are analyzed using a computational algorithm

# Ultrasound Elastography

- Non invasive
- HCC screening and staging at the same time
- Mechanical shear wave velocity, which is proportional to liver stiffness
- Multiple methods (transient, magnetic resonance, acoustic radiation force impulse)
- May be a reasonable alternative to biopsy

# Should we treat?



- Always yes! unless...
  - The patient won't be compliant
  - They are at high risk for re-infection
  - Their life span is limited

# Counseling: Natural History of HCV Liver Disease

3.5 million Americans are living w/ chronic HCV



## Progression of Hepatitis C

**For Every  
100**  
People Infected  
with the  
Hepatitis C Virus

**75–85**  
Will Develop  
Chronic Infection

**60–70**  
Will Develop Chronic  
Liver Disease

**5–20**  
Will Develop  
Cirrhosis

**1–5**  
Will Die of Cirrhosis  
or Liver Cancer

OVER TIME

# Counseling: Reduce Progression of Liver Disease

- Alcohol
- Ensure immunity to Hepatitis A and B
- Tylenol
- NSAIDs

# Counseling: Reduce Transmission of HCV

- Avoid blood borne exposure
  - Nail clippers
  - Razors



# Counseling: Reduce Progression of Liver Disease

- Sexual Transmission
- 4 prospective trials
- Total of 500 sero-discordant couples
- Rate of 0.07% per year among the couples
- 1 transmission per 190,000 sexual contacts

# Good Resources

- <http://www.hepatitisc.uw.edu/>

INVITED ARTICLE

VIRAL HEPATITIS

Camilla S. Graham, Section Editor

## Evaluation of the Hepatitis C Virus–Infected Patient: The Initial Encounter

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# Thank You