Hepatitis C
Pretreatment Evaluation
Disclosures for Kyle Rybczyk, APRN

- No disclosures to report
Remember.....

www.hcvguidelines.org
Objective

At the end of this presentation, the learner will be able to:

- Outline the appropriate evaluation of a person infected with HCV prior to treatment with direct acting antiviral therapy
Questions

 How do we determine how HCV has impacted each patient?
 How do we assess liver disease and comorbidities to inform clinical care and HCV treatment?
 How do we reduce harm while moving towards treatment?
Education about HCV

- Assess current understanding
- Explain principles of infection
- Review effect on liver
- Discuss general long-term health implications of continued infection
- Introduction to treatment (medication), curability
Counseling to Reduce Transmission of HCV

- Keep wounds covered
- Clean up blood or body fluid spills with alcohol and/or bleach
- Shared personal devices such as razors, toothbrushes, or nail clippers
- Barrier protection for intimate contact
- Safer approaches to injection drug use
History

HCV Infection History

- Time of infection
- Prior Staging/Prior Treatment
- Good time for education

Risk Factors

- Blood products/Surgeries
- Tattoos
- Piercing
- IVDU/IHDU
- Unprotected sex
- Baby boomer
Symptoms of Chronic HCV Infection

- Fatigue
- Arthralgias
- Chronic abdominal pain
- Insomnia
- Many patients are asymptomatic
Symptoms of Advanced Liver Disease

- Upper GI bleeding
- Ascites
- Hepatic encephalopathy
- Liver failure
Related History

- ETOH use
- Illicit/non-prescription drugs
- Smoking
- Prescription medication review
- OTC medication review
- Other medical diagnoses
- Family history
Social History

- Current living situation
- Occupational/work history
- Transportation
- Support System
Physical Exam

- May be normal without evidence of disease!
- Focus on stigmata of chronic liver disease:
  - Palmar erythema
  - Spider nevi
  - Gynecomastia
  - Jaundice
  - Ascites
  - Encephalopathy
Physical Exam (cont.)

- Evaluate for stigmata of injection drug use
  - Track marks
  - Thrombophlebitis
  - Skin scarring
Immunization Review

Hepatitis A

Hepatitis B

Influenza
Suggested Laboratory Testing

HCV Antibody, RNA & Genotype
- Confirm exposure
- Confirm active infection
- Define therapy options

CBC
- Evaluate cell lines

CMP
- Including liver function tests and albumin

PT/INR
- Check synthetic function

HAV and HBV testing
- Rule out co-infection
- Evaluate immunity status

HIV testing
- Rule out co-infection

Consider:
- ANA screen
  - Evaluate for autoimmune disease
- Hemoglobin A1C
  - Evaluate for metabolic disease
- Urine drug screen
  - Evaluate for ongoing drug use
- Vitamin D
  - Often low in patients with HCV
- Pregnancy Testing

Staging Liver Fibrosis/METAVIR

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

Types of Staging
- Liver biopsy
- Biomarkers
- Elastography
<table>
<thead>
<tr>
<th>Score</th>
<th>Pathologic Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No fibrosis</td>
</tr>
<tr>
<td>1</td>
<td>Periportal fibrosis</td>
</tr>
<tr>
<td>2</td>
<td>Periportal septae</td>
</tr>
<tr>
<td>3</td>
<td>Bridging fibrosis (portal-central septae)</td>
</tr>
<tr>
<td>4</td>
<td>Cirrhosis</td>
</tr>
</tbody>
</table>
Liver Biopsy To Stage Liver Fibrosis

- Historical gold standard
- May be helpful in evaluating other causes of liver disease
- Results may be impacted by quality of specimen (i.e. length of biopsy)
- Limited by invasive nature of test, cost, and access to proceduralist
- Risks/complications can be significant
Indirect Markers of Liver Fibrosis

**APRI**
- AST-To-Platelet Ratio Index
- \([(\text{AST/ ULN})/\text{PLT}] \times 100\]
- Sensitivity 76% and Specificity 72% at cutoff of 1.0 for predicting cirrhosis
- Sensitivity 46% and Specificity 91% at cutoff of 2.0 for predicting cirrhosis

**FIB-4 Index**
- Age x AST / [PLT x (ALT)\(^{1/2}\)]
- Negative predictive value 90% for advanced fibrosis if <1.45
- Positive predictive value 65% and specificity 97% for advanced fibrosis if >3.25

**Fibrosure**
- Multiple known inputs and proprietary equation
- Recognized by many payers

Elastography

- Measures 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
Notes About Anatomic Imaging

Anatomic imaging (i.e. ultrasound, CT, MRI) NOT adequate for staging
- Insensitive for underlying fibrosis
- If seen, advanced fibrotic changes likely correlate with pathology

Appropriate for hepatocellular carcinoma monitoring
Interventions to Reduce Progression of Liver Disease

- Immunization for Hepatitis A and B
- Alcohol abstinence
- Appropriate acetaminophen use
- Limited non-steroidal anti-inflammatory drug use, particularly in setting of advanced fibrosis
How Do I Remember All of This?

www.hcvguidelines.org
## Hepatitis C – Initial Evaluation Checklist

### Counseling
What is cirrhosis, transmission, long-term health (20% clear, 80% chronic (60 no cirr, 20 cirr, 4 die M/L/RF positive), treatment/cure rate

### Factors
Blood products
Tattoos
Piercing
Surgery
IVDU
Inhaled drug use
Unprotected sex
Baby boomer

### Symptom History
Fatigue, abd. Pain, insomnia, arthralgia, jaundice
Prior staging/treatment?

### Drug/Tox History
ETOH
Smoking
Presc., med. Review
OTC/non-presc. med. Review

### Medical History
Medical diagnosis review
Family history of liver disease/other disease

### Social
Living situation
Occupation/work history
Transportation
Support system

### Immunization Review
Hep A, Hep B, influenza

### Exam
Palmar erythema, spider nevi, gynecomastia, jaundice, ascites, asterixis, IVDU scars

### Labs
CBC, PT/INR, CMP, HIV, HBV/HAV panel, prep. test, HCV RNA, HCV genotype, drug screen

### Diagnostics
Fluoroscan, fluoroscopy, ultrasound