Treating Hepatitis C in 2016
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Disclosures

• I have no commercial or compensable affiliations with drug companies
• I will not be discussing specific drugs with off-label uses
Objectives

• Elucidate the benefits of current antiviral treatment options for chronic HCV infection
• Discuss strategies for prioritizing candidates for antiviral therapy
• Describe administrative measures for maximizing cost efficiencies in managing a hepatitis C program within the correctional setting
“The advent of effective Hepatitis C treatment in 2016 is an unprecedented advancement in the history of modern infectious diseases and an unprecedented challenge for correctional medicine.”
Unprecedented advancement for infectious diseases – Why?

• “Never before has modern science uncoded the molecular life cycle of a virus in the test tube and then developed curative medications that eradicate the virus in the vast majority of patients.”
Unprecedented challenge for correctional medicine – Why?

• Burden of disease: 9.6 – 41% prevalence
• Constitutional mandate: Estelle vs Gamble
• Rapidly evolving standard of care: [www.hcvguidelines.org](http://www.hcvguidelines.org)
• Broad indications for tx: curative/non-toxic
• Cost of medications: exorbitant
Hepatitis C Program Requirements

• Screening
• Patient education
• Chronic care and treatment
• Cost containment
• Risk management
Hepatitis C Virus Screening Considerations

• Test: anti-HCV and if +, HCV RNA
• Screening considerations:
  – Burden of disease and patient demographics
  – Average length of stay
  – Universal versus risk-based
  – Budget constraints
• But – if you do not screen always educate and refer!
Patient Education on Hepatitis C

- Patient education on the natural history of chronic HCV infection is more important than ever!
- Of ever 100 persons infected with HCV:
  - 75-85 will go on to develop chronic infection
  - 60-70 will go on to develop chronic liver disease
  - 5-20 will go on to develop cirrhosis over 20-30 years
  - 1-5 will die from chronic infection (cirrhosis or liver cancer)
- No good surrogate markers for disease progression – but HIV, HBV, alcohol hx, fatty liver disease, and diabetes advance disease progression. Genotype 3?
Care and Treatment of Patients with Chronic HCV Infection

- Chronic care clinic enrollment with individual treatment plans
- Prioritize candidates for anti-viral therapy
- Understand treatment options
- Monitor appropriately
- Engage with subspecialists strategically
Treatment Plans for Chronic HCV Infection

- **Individual assessment is key:** assessing risk factors for progression, addiction disease, mental illness, and other co-morbidities
- Vaccinations – HAV/HBV, pneumococcal for cirrhotics
- Counseling on disease transmission
Prioritizing Patients Treatment
Guidance from IDSA/AASLD

• “….accumulating evidence argue against deferral because of decreased all-cause morbidity and mortality.”

• “…..treatment may improve or prevent extrahepatic complications .....which are not tied to fibrosis stage.”

• “Deferral practices based on fibrosis stage alone are inadequate and shortsighted.”
Prioritizing Patients Treatment
Guidance from IDSA/AASLD

• “Most efficient approach to fibrosis assessment is to combine direct biomarkers and vibration-controlled transient liver elastography. A biopsy should be considered with discordant results........”

• “Alternatively, if direct biomarkers or vibration-controlled transient liver elastography are not available the AST-to-platelet ratio index (APRI or FIB-4 index score can help, although neither test is sensitive enough to rule of substantial fibrosis.”
Prioritizing Patients Treatment
VA – Updated hepatitis C guidance – March 28, 2016

- “All pts with chronic HCV ...without contraindications are candidates for tx...”
- “The urgency of treating HCV should be based on the risk of developing decompensated cirrhosis ....”
- “Cirrhosis can be diagnosed by multiple non-invasive tests ....” (excellent chart)
- “Not all VA facilities offer elastography”
- If no cirrhosis “Inform patients of the availability of curative treatments and offer treatment in a time period that is clinically appropriate.” But guidelines also say any veteran who wants treatment will receive it.
Prioritizing Patients Treatment

• Liver biopsy no longer needed in vast majority of patients.
• Ultrasound not needed in the vast majority of non-cirrhotic patients
• No gold standard for noninvasive blood tests
• APRI – AST/platelet ratio index is one of the simplest and least expensive methods for staging
• Staging of all HCV-infected inmates is critical!
Hepatitis C Treatment
Key Guidelines for Corrections

- [www.hcv.guidelines](http://www.hcv.guidelines) – Infectious Disease Society of America (IDSA) and Association for the American Study of Liver Disease (AASLD)
  - VA prioritizes regimens more than IDSA/AASLD. Both sets of guidelines include non-FDA-approved regimens
- [www.bop.gov](http://www.bop.gov) – Federal Bureau of Prisons
Hepatitis C Treatment in 2016

• “Treatment has quickly become simpler and more complicated at the same time.”

• Newton E. Kendig
Hepatitis C Treatment in 2016

• Treatment is simpler because:
  – Regimens are increasingly all oral
  – Regimens are increasingly fewer pills
  – Regimens are increasingly shorter in duration
  – Regimens are relatively well tolerated with fewer adverse reactions
  – Regimens are more efficacious - curative
Hepatitis C Treatment in 2016

• Treatment is more complicated because:
  – Treatment options have expanded
    • (e.g. over 100 compilations – IDSA/AASLD)
  – Treatment is genotype specific
  – Treatment varies with degree of liver disease
  – Treatment may require resistance testing
  – Drug interactions can be significant
Hepatitis C Treatment in 2016

• Oral treatment options with direct acting anti-viral agents continue to expand (not all inclusive):
  – Ledipasvir/sofosbuvir
  – Sofosbuvir/ribavirin
  – Elbasvir/grazoprevir
  – Paritaprevir/ritonavir/ombitasvir + ribavirin
  – Paritaprevir/ritonavir/ombitasvir + dasabuvir
  – Daclatasvir + sofosbuvir
  – Simeprevir + sofosbuvir
Hepatitis C Treatment in 2016
Key points for complicated patients - cirrhotics

• Patients with cirrhosis should be imaged (ultrasound) and staged for hepatic impairment (e.g. Child Turcotte Pugh Class A through C).
  – Class A = Compensated cirrhosis
  – Classes B and C = decompensated cirrhosis

• Regimens differ depending on genotype and degree of decompensation.
Hepatitis C Treatment in 2016
Key points for complicated patients – HIV Co-infection

• HCV/HIV – co-infected persons should generally be treated and retreated the same as those without HIV infection.
• However, drug interactions with anti-retrovirals may affect treat options and require dosage adjustments
Hepatitis C Treatment in 2016
Key points for complicated patients – Renal disease

- Oral treatment option now available (elbasvir/grazoprevir) for genotypes 1a, 1b, and 4 with creatinine clearance < 30 mL/min.
Hepatitis C Treatment in 2016
Key points for complicated patients – Tx failures

• Patients who have failed previous tx with peginterferon/ribavirin are candidates for retreatment with DAAs.

• Patients previously failing tx with the direct acting viral agents may be candidates for tx with an alternative regimen or may need tx deferred
  – Resistance testing may be needed to guide therapy
Hepatitis C Treatment in 2016
Quality improvement and subspecialty care

- TEAM Medicine
- Electronic record tracking/tools
- Subspecialty input
  - At least for complicated pts – HIV/renal disease/cirrhotics
- Telemedicine
- Project ECHO
VA announcement – March 9, 2016
Under Secretary for Health – Dr. David Shulkin

• “To manage limited resources previously, we established treatment priority for the sickest patients.”

• “We’re honored to be able to expand treatment for Veterans who are afflicted with hepatitis C.”

• The VA expects to spend $1 billion dollars in fiscal year 2016 that began October 1st and is requesting $1.5 billion dollars for treating hepatitis C next year.
Selected Hepatitis C Treatment Costs reported by WSJ – January 28, 2016

- Sovaldi - $84,000
- Harvoni - $94,000
- Viekira Pak - $83,000
- Zepatier – $54,000
Hepatitis C Treatment – Cost Effectiveness

• “Is treating hepatitis C in 2016 cost effective for corrections?”
Hepatitis C Treatment

Is it cost effective for corrections?

• It depends:
  – On individual patient morbidity
  – On average length of incarceration
Containing Hepatitis C Program Costs

• Pursue long term budget expansion
• Screen wisely, strategically, and cost effectively
• Invest in patient/provider education
• Limit unnecessary diagnostic testing
• Strategically use subspecialists
• Aggressively monitor tx options and navigate most economical options.
Mitigating Hepatitis C Program Risks

- Monitor rapidly evolving standards of care
- Establish policy and clinical practice guidelines
- Educate providers – ensure quality of care
- Centralize tx approvals/defer rather than deny care
- Monitor for tx failure – i.e. don’t waste drugs
- Ensure appropriate grievance responses
- Track and engage with other peer health care systems, e.g., State Medicaid
- Engage with legal counsel!
Mitigating Hepatitis C Program Risks

• “Risk management will be more challenging in the future as more and more Americans are treated for their hepatitis C and this becomes an increasingly available standard of care.”

• “Indeed, we are all on a journey and perhaps best to remind ourselves in 2016 that every health care system is facing the financial challenge of curing this chronic infectious disease – and as of 2013, only 13% to 18% of HCV-infected Americans had received any anti-viral therapy of any kind.”