Integrating Care for Hepatitis C Virus Infection For Patients Receiving Office-Based Therapy for Opioid Dependence

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Background

- Hepatitis C Virus (HCV) infection is highly prevalent in opioid dependent IDU (50-90%)\textsuperscript{1-4}
- HCV associated morbidity and mortality
  - Diminished QOL\textsuperscript{5}
  - Cirrhosis and liver cancer
- HCV treatment are low among IDU (1-16\%)\textsuperscript{6-8}

\textsuperscript{8} Stein et al. Drug and Alcohol Dependence.2001;61(3): 211-5
Background

AASLD guidelines to treat “current users of illicit drugs or alcohol who are willing to participate in a substance abuse program (such as a methadone program)…”

Barriers to HCV Treatment

**Individual barriers**
- Low patient motivation
- Unstable lifestyle
- Mod-severe depression
- Active drug use
- Heavy alcohol use

**Provider barriers**
- Perceived non-adherence
- Perceived risk of re-infection
- Knowledge of HCV

**System barriers**
- No health insurance
- No physician
- No transportation

1 Adapted from Mehta et al. *AIDS.* 2005; 19(S3): S179-S189.
Integration of Care for IDU Infected with HCV

• Linking services for substance use and medical care may reduce barriers to treatment

• Prior research shows successful integration of HCV treatment with methadone maintenance\textsuperscript{1-3}

• Office based buprenorphine programs are another opportunity to integrate HCV care

\textsuperscript{1} Sylvestri Drug and Alcohol Dependence. 2002; 67:117-123
\textsuperscript{2} Litwin et al. Journal of Substance Abuse Treatment. 2009; 37(1): 32-40
\textsuperscript{3} Krook et al. European Addiction Research. 2007; 13: 216-221
HCV-OBOT Clinic: Program Mission

- Provide on-site HCV care for patients who participate in the Office-Based Opioid Treatment Program (OBOT)
- Broaden access to providers with expertise in HCV management and treatment
- Allow patients to address HCV care and addictions concurrently in a supportive environment
OBOT Program at BMC

- Established Sept 1, 2003 in urban academic primary practice
- Based on a collaborative care model between nurse care managers and generalist physicians
- Treats >400 patients for opioid dependence

Alford DP et al. Arch Intern Med. 2011
OBOT Program at BMC

- 1 Program Director
- 3 Nurse Care Managers (NCM)
- 1 Program Coordinator
- 9 OBOT Physicians with part-time practices
OBOT Program at BMC

• Initial assessment by NCM and physician
  – Testing for viral hepatitis
  – Assessment of mental health needs
  – Weekly counseling agreement

• NCM-supervised induction and stabilization

• Maintenance
  – Follow-up appointments weekly, then q2-4 weeks if adherent (urine drug testing and appointments)
OBOT Program Features Attractive for HCV Care

• Close monitoring by OBOT staff
  – Patients accustomed to frequent visits/labwork

• Initial assessment of psychiatric co-morbidities, mental health needs

• Strong therapeutic bond with providers
  – Safe place to talk about substance use

• Medical care focused in primary care clinic
  – “Medical Home”
  – Reduces travel, hassle of going to many clinics
HCV-OBOT Program

- Established in Spring 2010
- Same staff as OBOT (NCM, Program Coordinator)
- Two physicians with HCV treatment experience
  - Infectious disease specialist
  - OBOT provider (internist) with HCV treatment experience
HCV-OBOT Program

- Referrals/scheduling through OBOT staff
  - Offered as an alternative to referral to GI
- Each physician has 3-4 slots reserved for HCV-OBOT patient per week
- RNs provide patient education, monitoring
  - DOT for weekly interferon injections offered
  - Contact patients for labs, monitor SE
HCV Testing in the OBOT Clinic

424 OBOT Patients

412 (97%) test HCV Ab
12 (3%) HCV Ab not tested

227 (55%) HCV Ab+
185 (45%) HCV Ab-

209 (92%) VL tested
18 (8%) VL not tested

157 (75%) VL det.
53 (25%) VL undet.
Referral and Treatment in HCV-OBOT Program

157 eligible for HCV-OBOT

70 (45%) referred to HCV-OBOT

42 (60%) seen by HCV-OBOT (# visits ≥1)
- 4 (10%) treated
- 38 (90%) not yet treated

87 (55%) not referred

28 (40%) no shows
- 4 treated
- 38 not yet treated
# Treated Patients: Baseline Characteristics

<table>
<thead>
<tr>
<th>Pt</th>
<th>Age</th>
<th>Sex</th>
<th>Race/Ethnicity</th>
<th>Social history</th>
<th>Time on Suboxone</th>
<th>IDU</th>
<th>SA history</th>
<th>Prior HCV treatment</th>
<th>Co-morbidities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>52</td>
<td>Male</td>
<td>White/non-Hispanic</td>
<td>Long-term girlfriend, works as carpenter</td>
<td>3 yrs</td>
<td>No</td>
<td>Prescription Narcotics Cocaine Alcohol</td>
<td>No</td>
<td>HTN</td>
</tr>
<tr>
<td>2</td>
<td>29</td>
<td>Male</td>
<td>White/non-Hispanic</td>
<td>Single, unemployed</td>
<td>4 mos</td>
<td>Yes</td>
<td>Heroin Cocaine Alcohol</td>
<td>No</td>
<td>h/o ARF Minimal Change Disease</td>
</tr>
<tr>
<td>3</td>
<td>43</td>
<td>Male</td>
<td>White/non-Hispanic</td>
<td>Girlfriend, works as construction worker</td>
<td>2 yrs</td>
<td>Yes</td>
<td>Heroin Cocaine Alcohol</td>
<td>Yes, in 2003, stopped due to ongoing SA</td>
<td>Depression</td>
</tr>
<tr>
<td>4</td>
<td>27</td>
<td>Male</td>
<td>White/non-Hispanic</td>
<td>Girlfriend, new baby, telephone fundraiser</td>
<td>6 mos</td>
<td>Yes</td>
<td>Heroin Benzo-diazepines Alcohol</td>
<td>No</td>
<td>none</td>
</tr>
</tbody>
</table>
## Treated Patients: Virologic Outcomes

<table>
<thead>
<tr>
<th>Pt</th>
<th>Genotype</th>
<th>Baseline VL</th>
<th>Biopsy Stage</th>
<th>DOT (IFN)</th>
<th>Week 4 VL</th>
<th>Week 12 VL</th>
<th>Week 24 VL</th>
<th>Week 48 VL</th>
<th>Post-treatment 24 wks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1a</td>
<td>1,094,790</td>
<td>4</td>
<td>No</td>
<td>4,445</td>
<td>undet.</td>
<td></td>
<td></td>
<td>undet. (ETR)</td>
</tr>
<tr>
<td>2</td>
<td>3a</td>
<td>1,426,590</td>
<td>NA</td>
<td>Yes</td>
<td>undet.</td>
<td>undet.</td>
<td></td>
<td></td>
<td>undet. (ETR)</td>
</tr>
<tr>
<td>3</td>
<td>2b</td>
<td>848,725</td>
<td>0-1</td>
<td>No</td>
<td>undet.</td>
<td>undet.</td>
<td></td>
<td></td>
<td>undet. (ETR)</td>
</tr>
<tr>
<td>4</td>
<td>3a</td>
<td>95,318</td>
<td>NA</td>
<td>No</td>
<td>undet.</td>
<td>undet.</td>
<td></td>
<td></td>
<td>undet. (ETR)</td>
</tr>
</tbody>
</table>
## Treated Patients: Side Effects/Complications

<table>
<thead>
<tr>
<th>Pt</th>
<th>Age</th>
<th>Genotype</th>
<th>Relapse Substance Use</th>
<th>SE/ Treatment Complications</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>52</td>
<td>1a</td>
<td>No</td>
<td>~wk 8 developed anemia requiring dose reduction of ribavirin, ~wk 40 developed appendicitis, treatment continued during hospitalization</td>
</tr>
<tr>
<td>2</td>
<td>29</td>
<td>3a</td>
<td>No</td>
<td>Rash-hands/knees/elbows, treated with topical steroid</td>
</tr>
<tr>
<td>3</td>
<td>43</td>
<td>2b</td>
<td>No</td>
<td>Rash</td>
</tr>
<tr>
<td>4</td>
<td>27</td>
<td>3a</td>
<td>No</td>
<td>IFN induced thyroiditis, TSH&lt;0.01, borderline nl free T4 and T3</td>
</tr>
</tbody>
</table>
Summary

• Office based treatment for opioid dependence provides opportunity to integrate HCV treatment with SA treatment

• Treatment for opioid dependence can provide a “platform” system for HCV care

• The HCV-OBOT program shows clinical promise in its clinical outcomes to date
Acknowledgements

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