HIV, Co-infection & Aging: New Challenges for Gerontology

Colleen Price, Ron Rosenes & Jamie Hill

*Canadian Treatment Action Council*

Charles Furlotte

*McMaster University*
HIV/HCV Co-infection

- 30% of people living with HIV (PHAs) also estimated to be diagnosed with Hepatitis C (HCV) (Klien et al, 2010);
- An estimated 13,000 people in Canada living with HCV/HIV co-infection
- Poorer health- HIV/HCV “makes everything worse”
- “Added pressures” (de Visser, Ezzy & Bartos, 2000)
- Aging and co-infection- In most co-infection studies, mean age is 45
<table>
<thead>
<tr>
<th></th>
<th>TOTAL</th>
<th>QUEBEC</th>
<th>BC</th>
<th>ALBERTA</th>
<th>ONTARIO</th>
<th>NOVA SCOTIA</th>
</tr>
</thead>
<tbody>
<tr>
<td># of patients</td>
<td>933</td>
<td>375</td>
<td>259</td>
<td>47</td>
<td>241</td>
<td>11</td>
</tr>
<tr>
<td>Median follow-up (in years)*</td>
<td>1.4(0.30, 7.0)</td>
<td>2.7 (0.4, 7.0)</td>
<td>0.8(0.3, 5.7)</td>
<td>2.0 (0.5, 3.0)</td>
<td>1.1 (0.3, 6.0)</td>
<td>1.2 (0.8, 2.0)</td>
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<tr>
<td>Gender (%)</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Male</td>
<td>73</td>
<td>79</td>
<td>59</td>
<td>68</td>
<td>79</td>
<td>82</td>
</tr>
<tr>
<td>Female</td>
<td>26</td>
<td>20</td>
<td>39</td>
<td>30</td>
<td>21</td>
<td>18</td>
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<tr>
<td>Transgender</td>
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<td>1</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Median age (in years)*</td>
<td>45 (19, 76)</td>
<td>44 (19, 70)</td>
<td>45(24, 71)</td>
<td>45(20, 70.00)</td>
<td>47(24, 76)</td>
<td>49(35, 60)</td>
</tr>
<tr>
<td>Born in Canada (%)</td>
<td>86</td>
<td>80</td>
<td>92</td>
<td>92</td>
<td>84</td>
<td>100</td>
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<tr>
<td>Greater than high school education (%)</td>
<td>26</td>
<td>22</td>
<td>23</td>
<td>26</td>
<td>36</td>
<td>36</td>
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<tr>
<td>Gross monthly income &gt;$1500 (%)</td>
<td>24</td>
<td>14</td>
<td>23</td>
<td>40</td>
<td>35</td>
<td>60</td>
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<tr>
<td>Marital status (%)</td>
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<tr>
<td>Single</td>
<td>66</td>
<td>77</td>
<td>60</td>
<td>57</td>
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<td>Married/Common-law</td>
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<td>12</td>
<td>22</td>
<td>26</td>
<td>27</td>
<td>45</td>
</tr>
<tr>
<td>Widow</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>9</td>
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<tr>
<td>Divorced</td>
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<td>7</td>
<td>13</td>
<td>13</td>
<td>9</td>
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<tr>
<td>Orientation (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Heterosexual</td>
<td>75</td>
<td>77</td>
<td>80</td>
<td>76</td>
<td>67</td>
<td>80</td>
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<tr>
<td>Homosexual</td>
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<td>16</td>
<td>13</td>
<td>15</td>
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<tr>
<td>Bisexual</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>9</td>
<td>5</td>
<td>0</td>
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</tbody>
</table>

Source: Klien et al, 2010

…New age considerations – argument for 45 + years in context of co-infection?
Complexities

- HCV known as the “silent epidemic”- often symptoms don't manifest until liver damage has occurred
- Liver damage from long term ARVs
- Co-morbidities, problems usually associated with aging- bone frailty, renal, liver, mental or cognitive impairments
- Clinical challenges- dual treatments, treatment uptake, maintenance and adherence and potential HIV/HCV drug interactions
HIV and Aging

- What have we learned?
Hepatitis C & Aging

• “Understudied” (Ayse, Mindikoglu & Miller, 2009)
• HCV as “viral time bomb” (WHO)
• HCV- most frequent cause of acute viral hepatitis in older adults (Marcus & Tur-Kaspa, 1997)
• 100,000 HCV+ adults > 70 years old in U.S. (Porter)
• Age at diagnosis impacts outcomes and age and transplant survival (Porter, p. 4)
“burden of chronic hepatitis C virus infection in elderly persons is expected to increase significantly in the U.S. during the next 2 decades” (Marcus & Tur-Kaspa, 2005)
Health Issues

- Premature aging, accelerated disease progression (HCV progression may be accelerated in the presence of HIV)
- Ambiguity in symptom appraisal and interpretation (de Visser, Ezzy & Bartos, 2000)
- Bone density and fractures (Lo et al 2012)
- Neuropsychological impairment (Richardson et al, 2005)
- Concurrent disorders (Schuster & Gonzalez, 2012)
- Co-infected individuals more likely to experience side effects of ARVs
- More likely to be unemployed, to live in poverty, experience financial difficulties and other challenges related to the social determinants of health (Rourke et al, 2011)
- Depression and social isolation
Challenges in the Clinical Management of Co-infection

• Layered, intersecting issues
• Timing of treatments and sustained virologic response (SVR)
• Hepatotoxicity of ARV regimens
• Potential drug interactions
• Limited data on safety, tolerance and effectiveness of HCV treatment regimens among people living with HIV
• Neuropsychiatric side effects of Interferon
• Substance use and harm reduction
Sociobehavioral Issues

• Multiple stigmas
• Access to treatments in Canada (formulary lag)
• Risk and prevention - HCV creates increased vulnerability to HIV as many of the risk factors are the same
• Incarceration and right to health
• Substance use and harm reduction
• Serious depression, mental health diagnoses and concurrent disorders
• Social support networks
• Gender, race, socioeconomic status and the social determinants of health
Existential Issues

- “Double jeopardy” (Siegel, Lekas & Brown-Bradley)
- Uncertainty over illness trajectory
- Ambiguity: H-I-V, H-C-V or A-G-E?
- Who’s messing with me today? HIV, HCV or meds? (Siegel, Lekas & Brown-Bradley)
- Decisions to pursue HCV treatment
- Experienced and felt stigma
- Mental health and spiritual well-being
- What is old age? Co-infection index?
- The body and sexual lives
Policy Recommendations

• Increased surveillance and testing
• Treatment access
• Increased HIV/HCV Co-infection and Aging research
• Gender specific research and intervention research specific to aged and aging PLHIV/HCV co-infected (i.e., inclusion in clinical trials).
• Increased need for hospice and palliative care
• Gerontologists – build familiarity with mental and physical complexities of co-infection (work with infectious disease specialists in multi-disciplinary teams, cross training)
Future Directions

• Integration of HIV/HCV co-infection into HIV and aging research, conferences & clinical trials.
• Develop a “Roadmap” to address multiple stigmas, develop harm reduction and wellness programs for aging PLHIV/HCV co-infection
• Request *Rapid Review* - Ontario HIV Treatment Network on HIV/HCV Co-infection and Aging
• Encourage gerontologists to join community-driven participatory research on HIV/HCV co-infection and Aging 45>
• Development of CIHR Operating Grant with a multi-disciplinary team and community co-investigators
References


Cooper et al (2009). *Environmental scan report of existing and required resources needed to optimize care*


Porter, Lucinda (). *Aging and Hepatitis C: An HCSP guide*


Siegel, Lekas and Brown-Bradley


Thank-you. For more information, please contact:

Colleen Price: 
coinfection@sympatico.ca

Charles Furlotte: 
furlotcr@mcmaster.ca
Extra slides, additional background, etc.
Treatment

• Current Hepatitis C treatment involves daily doses of ribavirin and weekly injections of pegylated interferon for 24 to 48 weeks.
• Hepatoxicity of ARV drugs
• Sustained virologic response (SVR)
• Some physicians reluctant to treat older HCV patients. (Porter)
• Patients over the age of 60 years old should be managed on an individual basis (National Institutes of Health HCV Consensus Report)
Treatment decision-making, symptom interpretation and management, stigma management, & maintenance of physical and emotional health all appear to be more complicated ..

(Siegel, Lekas and Brown-Bradley)
Co-infection and aging

• Extended longevity due to ARVs allowing for manifestation of long-term effects of HCV
• Increase in percentage of deaths in HIV+ patients attributable to liver disease

Source: Siegel, Lekas, & Brown-Bradley
Canadian knowledge

• National Co-infection Cohort Study surveys around 950 clinic patients in 9 cities: Halifax, Toronto, Ottawa, Windsor, Hamilton, Sudbury, Calgary, Vancouver and Montreal.

• Cohort main focus is on biomedical factors (ie. what it’s like to live with co-infection over a long period of time, factors impacting liver health, effect of substance use on HIV etc).
Canadian numbers

Of the 950 people in the Co-infection Cohort Study:
• 50% are under the age of 45
• 25% are women, 75% are men
• 12% are of Aboriginal background
• 80% have experience with drug injection

Source: Klien et al 2010
Substance use

• Most Canadian cases of HCV occur amongst people who use drugs

I-Track Study: Of people surveyed who inject drugs
• 65.7% were HCV-positive
• 13.2% were HIV-positive
• 11.7% were co-infected with HIV/HCV
• 87.7% of people surveyed who were living with HIV were also living with HCV

• Therefore, when we think about aging and co-infection, we must consider aging and substance use (Randi Melissa Schuster & Raul Gonzalez, 2012)
Co-infection in British Columbia

- Downtown Eastside study of co-infected people
- For the co-infected people in the study:
  - Those who were HIV-positive first became co-infected after 15 months (on average)
  - Those who were HCV-positive first became co-infected after 3.5 years (on average)
  - People who test positive for HIV are more likely to become co-infected faster
  - Lesson: Important to do co-infection prevention with people who are newly diagnosed HIV-positive

Source: Buxton (2010)
Initiatives in Canada

• Initiatives in Canada – co-infection working group, focus of the CTAC skills building days, CTAC’s first research summit on co-infection, increased HCV awareness (CAITE)

• Can team members identify other ‘milestones’ in moving the co-infection issue forward in Canada?
Some unanswered questions

• How many people living with HIV are HCV+ and don’t know it?
• The social determinants of health (focus on housing, access to meds)
• “Who’s going to deal with it?”
• Responses to despair
• Palliative care and co-infection