HIV/Hepatitis co-infection situation in Czech and Slovak Republics

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Disclosure:
I have no disclosure
<table>
<thead>
<tr>
<th></th>
<th>Prevalence</th>
<th>Annual Incidence</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HIV</strong></td>
<td>0,026%¹</td>
<td>266 cases (y.2015)¹</td>
<td>increasing trend</td>
</tr>
<tr>
<td></td>
<td>0,026%</td>
<td>25,2/1000 000 inhabitants</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2480 p. living with HIV</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>HBV</strong></td>
<td>0,14% HBsAg+³</td>
<td>89 cases of acute VHB (y.2015)¹</td>
<td>decreasing Trend</td>
</tr>
<tr>
<td></td>
<td>3,2% anti-HBc IgG+³</td>
<td>8,5/1 000 000 inhabitants</td>
<td></td>
</tr>
<tr>
<td><strong>HCV</strong></td>
<td>1,67% anti-HCV+²</td>
<td>956 cases (y.2015)¹</td>
<td>increasing trend</td>
</tr>
<tr>
<td></td>
<td>0,93% HCV RNA+</td>
<td>91/1 000 000 inhabitants</td>
<td></td>
</tr>
<tr>
<td><strong>Co-infected HIV/HBV</strong></td>
<td>2,1% HBsAg+, 37,5% anti-HBc IgG+⁴</td>
<td>unknown</td>
<td></td>
</tr>
<tr>
<td><strong>Co-infected HIV/HCV</strong></td>
<td>10,9% anti-HCV+⁴</td>
<td>unknown</td>
<td></td>
</tr>
</tbody>
</table>

1) National institute of Health, 2016
2) Chlibek R, University of Defence, 2015
3) Chlibek R, University of Defence, 2014
Prevalence of Different Subtype/Genotype in Czech Republic

<table>
<thead>
<tr>
<th>HIV Subtype Distribution:</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>A = 11,4%, B = 74,8%, Other = 13,8%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HIV-1 SUBTYPE</th>
<th>( n )</th>
<th>( % )</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>189</td>
<td>11,4%</td>
</tr>
<tr>
<td>B</td>
<td>1240</td>
<td>74,8%</td>
</tr>
<tr>
<td>C</td>
<td>49</td>
<td>3,0%</td>
</tr>
<tr>
<td>D</td>
<td>7</td>
<td>0,4%</td>
</tr>
<tr>
<td>F</td>
<td>6</td>
<td>0,4%</td>
</tr>
<tr>
<td>G</td>
<td>14</td>
<td>0,8%</td>
</tr>
<tr>
<td>CRF01_AE</td>
<td>58</td>
<td>3,5%</td>
</tr>
<tr>
<td>CRF02_AG</td>
<td>24</td>
<td>1,4%</td>
</tr>
<tr>
<td>CRF03_AB</td>
<td>0</td>
<td>0,0%</td>
</tr>
<tr>
<td>CRF06_cp</td>
<td>9</td>
<td>0,5%</td>
</tr>
<tr>
<td>other</td>
<td>61</td>
<td>3,7%</td>
</tr>
<tr>
<td>Total</td>
<td>1657</td>
<td>100,0%</td>
</tr>
</tbody>
</table>

Maly M, Nemecek V, National institute of Health, 2016
HCV Genotype and Subtype and Q80K mutation distribution in Czech R.

**HCV Genotype Distribution:** (common population)

- **1a = 25%**
- **1b = 25%**
- **3 = 46.4%**
- **other = 3.6%**

**Comment:**
- growing prevalence of GT 3, (originally GT 1b 80%),
- growing prevalence of subtype 1a,
- GT 4 still rare except HIV+ MSM

**HCV GT distribution in common population.**

Chlibek R, 2016: 3 centers: Hradec Kralove, Brno, Ceske Budejovice, n=3000

- GT 1a/b: 16%
- GT 1a: 25%
- GT 1b: 29%
- GT 3: 46.40%
- GT 4: 25%
- other: 3.60%

**HCV GT distribution in HIV+**

Aster V, Patients treated for VHC since 2003 till 2016. AIDS-Center Prague. n=46

- GT 1a; 29%
- GT 1b; 14%
- GT 3; 25%
- GT 1a/b; 16%
- GT 4; 16%

**Q80K positive: 20%**

Detection of Q80K mutation in HCV NS3 protease gene in Hradec Kralove – initial experience
Pliskova L1, Kutova R1, Plisek S2, Stepanova V3
## Main Risk factors for Transmission

### HIV

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSM</td>
<td>65%</td>
</tr>
<tr>
<td>Hetero</td>
<td>24%</td>
</tr>
<tr>
<td>IVDU</td>
<td>4%</td>
</tr>
</tbody>
</table>

### HBV

**Sexual** (till 1989 nosocomial)

- Exact data not available

### HCV

- **IVDU** (common population), sexual (in MSM, esp. HIV+)
  - Exact data not available

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**Main Risk factors for HIV Transmission in The Czech Republic**

- **HOM**: 1857; 65%
- **HET**: 689; 24%
- **IDU**: 105; 4%
- **UNK**: 80; 3%
- **IDU+HOM+HET**: 60; 2%
- **HEM**: 17; 1%
- **NOS**: 5; 0%
- **TRF**: 14; 1%
- **VER**: 9; 0%
- **NOS**: 5; 0%
Antiretroviral Treatment Currently available

First line regimens: % NNRTI, % PI/r, % INI complete exact data not available

Trend in The Czech R.: decreasing use of PI, increasing use of InSTI

ARV drugs used in pt’s from AIDS-Center Brno in July 2015 n=123 and in June 2016 n=186

Some ARV drugs available in Czech R.
- TDF
- FTC/TDF
- FTC/TDF/EVG/COBI
- FTC/TAF/EVG/COBI
- FTC/TDF/RPV
- ABC/3TC
- 3TC/ZDV
- RAL
- DRV
- LPV/RTV
- ATV
- Efav
- ETV
- RPV
- RTV
- DTG
- RAL/ABC/3TC
- DTG/ABC/3TC
- DTG/ABC/3TC
- DRV/COBI
- ATV/COBI

Most common ARV combinations in Czech R.
- DRV/RTV/FTC/TDF
- DRV/COBI/FTC/TDF
- LPV/RTV/FTC/TDF
- RPV/FTC/TDF
- EVG/FTC/TDF
- RAL/FTC/TDF
- DTG/FTC/TDF
- RAL/ABC/3TC
- DTG/ABC/3TC

2) Snopkova S, AIDS Center Brno, 2016.
## Anti-VHC/VHB Treatment Currently available

### HBV
- All drugs well available, TBV not registered
- **ETV, TDF**
- **3TC** (exceptionally in pt’s with poor prognosis and in pt’s with serious courses of acute VHB)
- **Peg-IFN** (decreasing trend of usage)
- Temporary prophylaxis in immunocompromised persons: **3TC still more common than TDF**

### HCV
- **DAA available:** LDV/SOF, 3D, SOF, DCV, ASV, SMV. „specific program“ with ASV/DCV, „window“ between approval and reimbursement
- Guidelines derived from EASL guidelines
- % of interferon use: **unknown**, but **still most pt’s treated by IFN containing regimens** (F0-F2)
- INF-free regimens: for F3 and F4 pt’s, available in 15 centers in C.R.

### IFN-free VHC treatment in Hepatologic Center Hospital Bulovka, Prague

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>waiting</td>
<td>30</td>
</tr>
<tr>
<td>started IFN-free</td>
<td>18</td>
</tr>
<tr>
<td>died (not started)</td>
<td>2</td>
</tr>
</tbody>
</table>

**Number of patients:**

- **non HIV**
- **HIV+**
### Patients on HAART, suppressed pt’s and number of dying

<table>
<thead>
<tr>
<th></th>
<th>Percent of Patients on HAART</th>
<th>Percent of patient suppressed (&lt;20)</th>
<th>Number Dying in Stage AIDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV Czech R.</td>
<td>unknown</td>
<td>unknown</td>
<td>250 (70%)</td>
</tr>
<tr>
<td>AIDS Center Brno</td>
<td>97,4% (186 out of 191 pt’s)</td>
<td>82,1% (n=123, 65% with CD4&gt;500)</td>
<td></td>
</tr>
</tbody>
</table>

# HBV-infection in The Czech Republic

<table>
<thead>
<tr>
<th></th>
<th>Percent of Patients on Therapy</th>
<th>Of Those Treated Percent of Patients Suppressed</th>
<th>Number Dying of Cirrhosis/Hepatoma</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBV</td>
<td>unknown</td>
<td>presumption: HBV DNA negative &gt; (95%)</td>
<td>Unknown/presumption: 20 pt dying of hepatoma</td>
</tr>
</tbody>
</table>

LTx. for HBV infection
IKEM 1995-April2015.

\[ N=1187 \text{ LTx in 1122 recipients} \]

HCV infection in The Czech Republic

Presumption in diagnosed cases:
500 living HCV infected pt’s in cirrhosis stage (2016)¹)

<table>
<thead>
<tr>
<th></th>
<th>Percent of Patients Received Therapy</th>
<th>Of Those Treated Percent of Patients Cured</th>
<th>Number Dying of Cirrhosis/Hepatoma</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCV</td>
<td>40-50% (presumption in diagnosed cases)</td>
<td>unknown</td>
<td>unknown/dying of Hepatoma:20 ptś /y (presumption)</td>
</tr>
</tbody>
</table>


- LTx for HCV 1996-2013: 48
- LTx for HCV 2013-Sept.2016: 25 (HCC Yes) 12 (without HCC)

Number of LTx. for HCV infection, IKEM: increased incidence of HCC in LTx. For HCV³

**Time to Tx on waiting list in The Czech R.: 84 days on average²)**

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1) Urbanek P, 2016
2) Trunecka P et all, IKEM (Institute of Clinical and Experimetnal Medicine, Prague) 2016
3) Frankova S, IKEM (Institute of Clinical and Experimetnal Medicine, Prague) 2016
## HIV, HBV and HCV in The Slovak Republic

<table>
<thead>
<tr>
<th></th>
<th>Prevalence</th>
<th>Annual Incidence</th>
<th>Co-infection</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HIV</strong></td>
<td>0,015%&lt;sup&gt;1)&lt;/sup&gt; 796 p. living with HIV&lt;sup&gt;1)&lt;/sup&gt;</td>
<td>86 cases (y.2015)&lt;sup&gt;1)&lt;/sup&gt; 14,6/1000 000 inhabitants&lt;sup&gt;1)&lt;/sup&gt;</td>
<td>5% HIV/HBV coinfection&lt;sup&gt;4)&lt;/sup&gt; (HBsAg+)</td>
</tr>
<tr>
<td><strong>HBV</strong></td>
<td>2,8% HBsAg+&lt;sup&gt;2),3)&lt;/sup&gt; 15,9% anti-HBc IgG+&lt;sup&gt;2),3)&lt;/sup&gt; 1,80% HBV DNA+&lt;sup&gt;2),3)&lt;/sup&gt;</td>
<td></td>
<td>5% HIV/HCV coinfection&lt;sup&gt;4)&lt;/sup&gt; (HCV RNA+)</td>
</tr>
<tr>
<td><strong>HCV</strong></td>
<td>1,52% anti-HCV+&lt;sup&gt;2)&lt;/sup&gt; 0,67% HCV RNA+ (new study in process)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Number of dying HIV+ persons in Slovakia n=857, June 2016
- Living: 796; 93%
- Dying non AIDS: 47; 5%
- Dying AIDS: 14; 2%

### HIV infection according mode of acquisition in Slovakia in % n=857
- HO: 64,9%
- HET: 23,6%
- IVDU: 9,2%
- TRF: 2,2%
- Unknown: 0,1%

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Conclusions

- Prevalence of HIV infection in The Czech Republic is still low, but is apparently growing, predominantly in MSM
- Relatively growing use of InSTI
- Prevalence of HCV infection in Czech R. is higher than was originally supposed
- The use of IFN containing regimens is still common in VHC treatment and access to IFN-free regimens is still not satisfactory (even for F3 and F4 pt’s)
- No VHC treatment special budget for HIV co-infected population in C.R.
- HCV GT4 is rare, but not in HIV+MSM
- Relatively growing prevalence of HCV GT3 and GT 1a
  - growth of residents from other countries (Ukraine)
  - growth of new HCV infections from I.V. drug abuse population
- relatively short time to Tx on waiting list in The Czech Republic
- Increased incidence of HCC in LTx. for HCV
- Slovakia versus Czech R.:
  - 2x lower prevalence of HIV infection,
  - 20x higher prevalence of HBV infection
  - similar prevalence of HCV infection
Acknowledgement

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