HIV/Hepatitis co-infection situation in POLAND

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22-23.6.2015
<table>
<thead>
<tr>
<th></th>
<th>Prevalence</th>
<th>Annual Incidence /100 00 cases</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td>HIV (2014)</td>
<td>~0.1% (total: 18750 cases)</td>
<td>2.9 (1114 cases)</td>
<td>~1000-1200 new cases/year</td>
</tr>
<tr>
<td>HBV (2014)</td>
<td>HBsAg: 2%-4%, 0.9% (blood donors)</td>
<td>7.1 (2733 cases)</td>
<td>Acute: 0.18 (68 cases)</td>
</tr>
<tr>
<td>HCV (estimate)</td>
<td>Antibody: 0.9-1.9% (320 000 pts)</td>
<td>9.2 (3553 cases)</td>
<td>HCV-RNA – 0.52% ~230 000 pts</td>
</tr>
<tr>
<td>Co-infected HIV/HBV</td>
<td>~39% antiHBc positive, ~1% HBs/HBV-DNA (+) (no current data)</td>
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</tr>
<tr>
<td>Co-infected HIV/HCV</td>
<td>In 33% diagnosed HIV positive anti-HCV ab., of these 70-80% HCV-RNA +</td>
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</tbody>
</table>
Current HIV epidemics in Poland

10 year tendency for transmission route
IDU: 90% decrease
heterosexual: 114 % increase
MSM: 345% increase

Large cities

MSM- Associated

Rosinska et al./. Eurosurveillance, 2013
HIV/HCV coinfected

HIV/HCV transmission route

- MSM: 5.09%
- HET: 10.18%
- IDU: 84.73%

Unpublished data, n=334
HIV/HCV coinfection rates decrease related to change in transmission route

Unpublished data, n=609
KC AIDS/PZH, national data

http://www.biomedcentral.com/1471-2334/14/S6/S13
Current HCV epidemics in Poland

Age related frequency increase

Increasing HCV related mortality

Total number of diagnosed HCV + - 30,000 (NIPH-NIH) - 50,000 cases

Fluctuations in the number of the new cases related to educational and screening campaigns

HCV detection during in-hospital treatment by year

Age and sex distribution of antihepatitis C virus prevalence in Poland, 2012.

Journal of Viral Hepatitis, 2015, 22, (Suppl. S1), 1–5
Current HBV issues in Poland

Acute and chronic HBV incidence

HBV incidence by gender

HBV incidence by age

1994 Neonate vaccination

2000 Teenagers (13-14 ys.)

HBV incidence decrease from 1981
Prevalence of Different Subtype/Genotype in Country

<table>
<thead>
<tr>
<th>HIV Subtype Distribution:</th>
<th>Subtype B - 86.9% (&gt;95% in MSM), (13.1%) non-B: A1 - 5.2%, D - 3.5%, C - 1.8%, F1 - 0.2%, 2.1% - CRFs (mostly CRF02_AG and CRF01_AE)</th>
</tr>
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<tbody>
<tr>
<td>HCV Genotype Distribution:</td>
<td>Genotype (G) 1b - 77.4%, 1a -2%, G2 -0.1%, G3- 13.8%, G4- 4.9%, G6-0.09% mixed infections in 1.6%.</td>
</tr>
</tbody>
</table>

Parczewski, JAC 2015
Panasiuk PRZEGL EPIDEMIOL 2012; 66: 11 – 16
No sequence data available for HCV in Poland
Subtype distribution and novel recombinants in HIV-1

Parczewski et al., abstr 77., 13th European Meeting on HIV and Hepatitis, Barcelona, 3-5.6. 2015
HIV-1 import tracing (phylogeography)
HIV-1 import tracing (phylogeography)

M. Parczewski et al./Infection, Genetics and Evolution 27 (2014) 121–130
HCV genotype distribution in HIV/HCV coinfected patients

N=93, only HCV treated
Dr I. Cielniak, Ph.D. thesis
Supervisor prof. A. Horban

N=149, treated and untreated
Szczecn, unpublished data

Soriano V i wsp, 2008.: The EurioSIDA Study Group
### Main Risk factors for Transmission

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<tr>
<td><strong>HIV</strong></td>
<td>18% UNK, MSM = 21%, IVDU = 36%, Hetero= 23% (currently mainly mainly MSM epidemics)</td>
</tr>
<tr>
<td><strong>HBV (no % availible)</strong></td>
<td>Uncertain, probably sexual (HET and MSM), marginally IDU, nosocomial in unvaccinated</td>
</tr>
<tr>
<td><strong>HCV</strong></td>
<td>Total nosocomial: 70-80%, 27%-blood transfusion&lt; 1992, 7%-blood transfusion&gt;1992 , IDU – 5-9%, increasing in MSM (HIV/acute HepC)</td>
</tr>
</tbody>
</table>

NS3A sequence (g1) in HIV/HCV & Q80K

ML (phyML) constructed tree
Model: GTR + gamma
Model parameters available on demand
Unpublished data
### Antiviral Treatment Currently Available

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<tr>
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<th>HIV</th>
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<tbody>
<tr>
<td></td>
<td>ALL approved in Europe</td>
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<tr>
<td></td>
<td>TDF/FTC, ABC/3TC, ZDV/3TC, NVP, EFV, DRV/r, RAL</td>
</tr>
<tr>
<td></td>
<td>STRs: TDF/FTC/EVG/c, TDF/FTC/RPV, TDF/FTC/EFV, ABC/3TC/DTV. DRV/c</td>
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<tr>
<td></td>
<td>soon</td>
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<tbody>
<tr>
<td></td>
<td>TDF (also generic), 3TC (also generic), Entecavir, adefovir, PegIFN</td>
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<th>HCV</th>
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<tr>
<td></td>
<td>Peg, Riba, Telaprevir, Boceprevir, Simeprevir (May 2015 treatment</td>
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<td>programme)</td>
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Polish Scientific AIDS Society guidelines
Polish Association for the study of the liver guidelines, NFZ programme
### HIV

<table>
<thead>
<tr>
<th>Number diagnosed</th>
<th>AIDS diagnosed</th>
<th>Percent of Patients on HAART</th>
<th>Percent of patient suppressed (&lt;50)</th>
<th>Number Dying of AIDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 750 (17 454 alive)</td>
<td>3206 cases</td>
<td>45.1% (7881 treated cases)</td>
<td>&gt;90% MSM ~60-70% IDU &gt;80% HET (estimate)</td>
<td>1291 (until January 2015)</td>
</tr>
</tbody>
</table>

**Poland**

- Treatment available for all eligible patients.
- Current CD4 count threshold for treatment <500 cells/ul

KC AIDS/PZH, dane ogólnoposkie

Polish Scientific AIDS Society guidelines
Transmitted drug resistance HIV-1

NRTI DRMs
- Overall: 5.8%
- MSM: 4.4%
- IDU: 0.7%
- HET: 10.2%

NNRTI DRMs
- Overall: 1.2%
- MSM: 1.4%
- IDU: 0.7%
- HET: 1.2%

PI DRMs
- Overall: 2.0%
- MSM: 2.5%
- IDU: 1.4%
- HET: 2.0%

Total tDRMs
- Overall: 9.0%
- MSM: 8.3%
- IDU: 2.9%
- HET: 13.0%

n = 833
n = 432
n = 138
n = 254

*p = (0.05-0.01) compared to HET
‡p < 0.01 compared to HET
#p = (0.05-0.01) compared to HET + IDU
†p = (0.05-0.01) compared to MSM
♦p = (0.1-0.51) compared to MSM

<9% in MSM
Stable trend over time from 2008

Parczewski et al., JAC, 2015
### Poland

<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>
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<tr>
<td>HBV</td>
<td>~30%? (no data)</td>
<td>Nucleos(t)ide analogues – 90%</td>
<td>78/year (2011)</td>
</tr>
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Hepatitis B and C surveillance in Europe 2012, ecdc
### Poland

**Percent of Patients Received Therapy**

- HCV
  - ~15% diagnosed! (~3000/year)
  - 20% of these PegIFN/RBV+PR

**Treated And Cured (%)**

- 40%: G1-4
- 70%: G3
  (assumed, no data)

**Number Dying of Cirrhosis/ Hepatoma**

- Increasing (>200/year - 217/2012)
  - HCV related deaths
  - ~100 liver transplants/year due to HCV causes

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*In updated HCV treatment program Peg-RBV+PR (BOC, TPV, SIM) available to all G1 and G4 infected patients. For G1a Q80K detection necessary prior to the treatment.*

HCV treatment issues

- Treatment rate ~2%
- Viremic prevalence 0.5%
- Diagnosis rate 15%

DAA urgent treatment scale-up necessary

Mortality due to liver diseases by the region

Mortality due to hepatitis by the region
Conclusions

• HIV epidemic in Poland is expanding (underdiagnosed) mostly in MSM population. Full treatment access. **Challenges: prevention, early testing, linkage to care**

• HCV – under diagnosed, limited access to DAA drugs so far, treatment mostly PegIFN/RBV or PegIFN/RBV+PI. **Challenges: testing and detection, IFN-free treatment, treatment prioritization.**

• HBV - epidemic controlled, >95% vaccination coverage, full access to nucleos(t)ide or PegIFN treatment. **Challenges: chronic care, detection of HCC**