HEPATITIS SCREENING IN THE LITHUANIAN BLOOD ESTABLISHMENTS

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Organizational structure of Lithuanian blood service

1 specialized establishment - National Blood Center (NBC)
- agreements with 73 hospitals;
- activity in 5 cities of Lithuania (affiliates, fixed and mobile sets in Vilnius, Klaipeda, Panevezys, Siauliai, Kaunas).

2 university hospital based blood establishments:
- the production is used mainly for hospital purposes;
- the lack is compensated by National Blood Center.
Organizational structure of Lithuanian blood service
Country population 2,971 mln.
Blood donations in Lithuania 2014 – 93 380*

National blood center (NBC) – 66 129
VUL Santariskes clinics – 19 563
LSMU Kaunas clinics – 7 688

*Blood donors register data (available from June 2012)
Viral markers testing

- Each blood donation (at the blood establishment) is mandatory tested for:
  - HIV 1/2 (Ag/anti-HIV)
  - Hepatitis B (HBsAg)
  - Hepatitis C (Anti-HCV)
  - Syphilis anti TP

- NAT testing for HIV 1 (HIV RNA), hepatitis B (HBV DNA) and hepatitis C (HVC RNA)

  (from 2009 mandatory for each serological negative donation)
Infectious Marker Screening in National blood center

Serology
- Abbott system “ARCHITECT”
- All positive samples must be repeated 2 times

NAT
- All serologically negative samples must be tested by NAT
- Grifols (Novartis) Procleix TIGRIS system
- (Procleix Ultrie Plus, individual testing and pool from 6)
- From 2016 we will start work with Roche Cobas 6800 (1/3 - individual testing and 2/3 - pool from 24)
Positive confirmatory testing results for all infections*

2013
- HIV: 56.90%
- Siphilis: 18.90%
- Hepatitis B: 21.70%
- Hepatitis C: 2.50%

2014
- HIV: 55.00%
- Siphilis: 21.90%
- Hepatitis B: 21.10%
- Hepatitis C: 2.00%

*Blood donors register data
Positive confirmatory testing results NBC (%)
Positive confirmatory testing results 2013*

- HCV:
  - Remunerated first time donations: 9.5%
  - Non-remunerated first time donations: 8.2%
  - Remunerated regular donors: 11.1%
  - Non-remunerated regular donors: 6.3%

- HBV:
  - Remunerated first time donations: 0.7%
  - Non-remunerated first time donations: 0.9%
  - Remunerated regular donors: 0.6%
  - Non-remunerated regular donors: 0.6%

*Blood donors register data
Positive confirmatory testing results 2014*

*Blood donors register data
Hepatitis C markers rate per 100 000 donors in first time tested and repeat/regular donors population 2006 – 2014*

*Blood donors register data
Hepatitis B markers rate per 100 000 donors in first time tested and repeat/regular donors population 2006 – 2014*

*Blood donors register data
## Donations and testing

### The risk of serological and NAT positive results in remunerated donors*

<table>
<thead>
<tr>
<th>Serological testing</th>
<th>Comparing with non-remunerated donors</th>
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</thead>
<tbody>
<tr>
<td>• Hepatitis B (HBsAg)</td>
<td>1,54 times higher*</td>
</tr>
<tr>
<td>• Hepatitis C (anti-HCV)</td>
<td>3,11 times higher*</td>
</tr>
<tr>
<td>• HIV ½ (anti-HIV ½)</td>
<td>not estimated</td>
</tr>
<tr>
<td>• Syphilis (TPHA)</td>
<td>2,1 times higher*</td>
</tr>
</tbody>
</table>

### NAT testing (in serological negative donations)

| • Hepatitis B (HBV-DNR)                 | 4,47-7,33 times higher*               |
| • Hepatitis C (HCV-RNR)                 | 22,56-58,33 times higher*             |
| • HIV 1 (HIV1-DNR)                      | not estimated                         |

* - the difference is statistically significant
Sources: National blood center statistics, 2012
Main principles of voluntary, non-remunerated donations in Lithuania:

• The main motivation to promote voluntary, non-remunerated donation is ensuring the safety of the blood.

• Person donating blood or blood components not for financial compensation do not have the intention to hide the lifestyle, risk factors and / or health status.

• (1) State control over blood transfusion service,

• (2) no private blood establishments,

• (3) paying more attention and giving financial sources to the program for developing of non-remunerated, voluntary donations.

• (4) Famous people must show good examples.
Non-remunerated donations in Lithuania, %*

*Blood donors register data
Dynamic of remunerated and non-remunerated donations in Lithuania*

Per 1000 inhabitants

*Blood donors register data
Non-remunerated donations in NBC, %
2014 - 2015
Thank you for your attention

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