Overview of surveillance system and epidemiology of hepatitis B and C, Belgium

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Hepatitis C bijna uitgeroeid

Het abc van hepatitis

- Hepatitis C kan samen met A en B, het vaakst voor.
- Het vaakst voor.
- Omdat de reactie van
  gehele te onthoudings,
  wordt het na het hepatitis
  het populairst voor
  naar de oude
  A, B, C, D, E, F en G.
- De hepatitis C is
  minder besmet
  dan de A en B.
- Bij hepatitis C zijn
  de besmetting
  via het bloed.
- Besmetting kan
  via bloedtransfusies,
  meten van
  injectiesnauwkeurig,
  maar ook door
  naasten en contact.
- Besmetting
  levercelklinker en
  levercellen.
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  bij de besmettingen.
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Agenda

!!!There are no epidemiologic data available!!!!

!!!No awareness and no screening policy available!!!!

!!!HCV infected patients are not aware of their status!!!
General population: Available surveillance systems

- Mandatory notification
- Seroprevalence studies
- RIZIV-INAMI
- IMA-AIM
- Sentinel lab network
- Blood bank
- HCV register
- Vaccination registers
- Mortality data
Surveillance of HCV

- Prevalence
  - RIZIV-INAMI + IMA-AIM
  - Seroprevalence
- Confirmation diagnosis
  - RIZIV-INAMI + IMA-AIM + HCVGen
- Genotyping
- Treatment
  - HCV register + antiviral consumption
- SVR
  - HCV register
- Mortality
  - SPMA
- Serology screening
- Surveillance of HCV
Surveillance of HBV

- Serology screening
- Confirmation diagnosis
- Treatment
- Genotyping
- SVR
- Mortality

Vaccination

- Prevalence
- Seroprevalence

Sentinel lab network: RIZIV-INAMI+IMA-A

SPMA
Mandatory notification

Zorg en Gezondheid (Flemish community):
  • Acute HBV
  • No HCV notification

AViQ (Walloon region):
  • No HBV notification
  • No HCV notification

BXL:
  • hepatitis
# HCV seroprevalence studies

## Previous studies

<table>
<thead>
<tr>
<th>Year</th>
<th>region</th>
<th>result</th>
<th>N (age)</th>
<th>Test method</th>
<th>ref</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>Flanders</td>
<td>0.87%</td>
<td>4055 (0-&gt;65+)</td>
<td>HCV Ab</td>
<td>Beutels et al.</td>
</tr>
<tr>
<td>2003</td>
<td>Flanders</td>
<td>0.12%</td>
<td>1834 (0-&gt;65+)</td>
<td>Oral sample, HCV Ab</td>
<td>Quoilin et al.</td>
</tr>
</tbody>
</table>

Nomenclature:
- 556710 en 556721: RNA-PCR (from 1/6/2008)
- 556732 en 556743: Q-PCR (from 1/6/2008)
- 556754 en 556765: Genotyping (from 1/6/2008)
- 550233 en 550244: confirmation test (1/12/01-26/2/10)
AIM-IMA (intermutualistic agency) permanente steekproef (EPS) L’échantillon permanente

- From 2002
- 7 “mutuality” agencies
- 305,000 Belgian residence
  - 1/40 (age 0-65 y)
  - 1/20 (age >65y)
Number of HCV serology requests
Number of HCV serology requests, 2015

- 756,617 serology tests performed
- For 644,453 unique patients
- For 270,713 (42,0%) of these no serology test performed during 9 previous years
- During 9 previous years 3,679,427 patients were screened or 33,4% of the Belgian population
- Yearly, 2,5% new patients of the Belgian population screened.
Gender and age distribution, HCV serology testing, AIM-IMA, 2015
Organisation sentinel laboratory network

Clinical labs

Participating sentinel labs → Reference laboratories/NRC

WIV-ISP

Data cleaning

TESSy → Datareporting → EPISTAT

WIV-ISP Laboratories

Laboratories+ WIV-ISP
Percentage lab participations

% participating sentinel labs

Year

1983 1985 1987 1989 1991 1993 1995 1997 1999 2001 2003 2005 2007 2009 2011 2013
Number of genotyping analysis (RIZIV/INAMI; AIM-IMA), number of records by sentinel lab network
Gender and age distribution, sentinel lab network, HCV, 2016
Mortality

Standardized Procedures for Mortality Analysis,
IPH, Belgium. https://spma.wiv-isp.be
HCV Risk factors and seroprevalence within high prevalence groups

- IVD users
- Prisons
- Migrants
- HIV co-infection
- Babyboom generation
- Healthcare workers and nosocomial infections
HCV seroprevalence within high prevalence groups: IVD users – study

• In 2010; 10.100 IVD users
• 43% HCV infected (34% - 57%)
HCV seroprevalence within high prevalence groups: prisons

**Worldwide**

- Based on literature study (year of publication 2005-2015)
- 10.2 million prisoners
- 15.1% HCV infected
- 3.8% HIV, 4.8% HBV and 2.8% tuberculosis

**Belgium**

- 2014: 11.769 prisoners*
- **2006-2008: Lantin, 3710 new entrees, 14.6% anti-HCV**
- ***Similar data in prisons Flanders 10-15%***

*Aantal gedetineerden die verblijven in de Belgische gevangenissen: http://statbel.fgov.be/nl/statistieken/cijfers/bevolking/andere/gevangenen/

**Mémoire Virginie Minguet (2010-2011)**

***Pascal Bilaey, personal communication***
Seroprevalence within high prevalence groups: migrants from endemic regions
HCV seroprevalence within high prevalence groups: migrants from endemic regions

- Based on migrant population in Belgium from endemic regions (seroprevalence >1%)
- Adults (>15+)
- Estimated 18,607 (9,729-32,764) cases.
- Considering 58,360 HCV infected in Belgium, 32% have roots from foreign countries.
HCV seroprevalence within high prevalence groups: HIV co-infection

Hepatitis C als co-infectie bij HIV positieve MSM: incidentie en risicofactoren

Ludwig Apers
Avondseminarie 29/10/2015
HCV seroprevalence within high prevalence groups: HIV co-infection

- ITM study 2010-2014, 11,641 HIV patients
- 5,556 MSM patients (47.7%)
- 87 (1.6%) HCV infected
HCV seroprevalence within high prevalence groups: babyboom generation

UZGent study for 1106 patients admitted at the emergency department

<table>
<thead>
<tr>
<th>Date of birth</th>
<th>N</th>
<th>Prevalence</th>
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<tbody>
<tr>
<td>&lt;1945</td>
<td>236 (21,3)</td>
<td>2,02%</td>
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<tr>
<td>1945-1965</td>
<td>376 (34%)</td>
<td>1,6%</td>
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<tr>
<td>&gt;1965</td>
<td>494 (44,7%)</td>
<td>1,12%</td>
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<tr>
<td>Total</td>
<td>1106</td>
<td>1,9%</td>
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IDRISSI (2), A. GEERTS (1), E. PADALKO (3), P. DE PAEPE (2), H. VAN VLERBERGHE (1) / [1] Ghent University,

Acta GE Belgica 80, A11, 2017

Do or don’t: HCV screening in the Belgian Baby Boom Cohort.
HCV seroprevalence within high prevalence groups: Healthcare workers

- Prevalence study in 22 hospitals in Flanders and BXL
- Study period 1996-1997
- Prevalence 0.41%

Prevalence of Hepatitis C Antibodies in a Large Sample of Belgian Healthcare Workers

Guido Moens, Robert Vranckx, Liesbeth De Greef, and Pierre Jacques
HCV seroprevalence within high prevalence groups: nosocomial infections

Hepatitis C virus in a hemodialysis unit: Molecular evidence for nosocomial transmission

Lieven Stuyver, Hendrik Claey, Ann Wyseur, Wouter Van Arnhem, Hans De Beenhouwer, Stijn Uytendaele, Jan Beckers, Dirk Matthijs, Geert Leroux-Roels, Geert Maertens, and Marc De Paepe

Innogenetics, Gent; Blood Transfusion Centre Leuven, Leuven; St Blasius Algemeen Ziekenhuis, Dendermonde; Laboratory of Clinical Chemistry, University of Gent, Gent, Belgium

- Only one study described
- ECDC request to report nosocomial infections
- In Belgium no mandatory notification for hepatitis nosocomial infections
Conclusion

- Although screenings are performed within the general population and high prevalence groups, no screening policy is available.
- Epidemiological data are available for general population and high prevalence groups.
- Epidemiological data are fractionated and missing a strategic plan.
- The implementation of a HCV register should improve the epidemiologic trend analysis.