

Health care associated viral hepatitis in the Netherlands

VHPB, nov 14th, 2008

session 6: prevention and control

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AMC – Clinical Virology / Sanquin - Blood-borne infections

Bbi's in health care:

Infected personnel → patients

1) management of HBV+ personnel; 2) HCV guidelines

Infected patients → personnel

3) number and nature of occupational injuries in AMC



personnel → patients: HBV

1999: the '**Veghel incident**':
proven transmission of HBV
in 8 cases (identical HBV
sequences); plus 2 probable
and 20 possible cases.
(Spijkerman ea, NTvG 2003)

2000:
**Committee for prevention of
iatrogenic hepatitis B.**



personnel → patients: HCV

Real soon now:



personnel → patients HBV / HCV

transmission occurs predominantly during
Exposure Prone Procedures (EPPs):

Exposure prone procedures (EPPs) are those where there is a risk that injury to the worker may result in exposure of the patient's open tissues to the blood of the worker. These procedures include those where the worker's gloved hands may be in contact with sharp instruments, needle tips or sharp tissues (spicules of bone or teeth) inside a patient's open body cavity, wound or confined anatomical space where the hands or fingertips may not be completely visible at all times.

HBV guideline: NL vs. RoW

Exclusion from EPPs if

HBV-DNA

UK,Australia

$> 10^3$ cps/mL

Europ. consensus group, Ir

$> 10^4$ cps/mL

NL

$> 10^5$ cps/mL

Expert Committee decides in:

USA, Canada, NewZealand, Germany, France

1. Management of HBV+ HCWs in NL

Number and nature of HBV infected health care workers, as reviewed by the Dutch Committee for prevention of iatrogenic hepatitis B:

| Personnel: | performing EPPs | possibly performing EPPS in future | not performing EPPs | Total |
|-------------------|------------------------|---|----------------------------|--------------|
| Total | 50 | 7 | 42 | 99 |

HBV+ HCWs in NL (continued)

- 99 HBV+ HCWs reported to Committee (2000-2008)
- 50/99 performed EPPs:
 - 2/50 stopped working
 - 37/50: low viral load: EPPs allowed, but monitoring mandatory:
 - 12/37 other profession/stopped/died/moved to ...
 - 25/37 continue working while HBV-DNA is being monitored.
 - **11/50 had a high viral load (> 100.000 HBV DNA copies /mL): no EPPs!**
 - 5/11 resumed work thanks to antiviral therapy.

of infections prevented?

2. HCV guideline: NL vs. RoW

Netherlands: no guideline on HCV+ HCWs...

RoW:

EPPs excluded if

UK, Australia, Italia

HCV-RNA+

Germany

> 10^3 cps/mL or acute infection

HCV measures: conclusion

Considering

- superior cure rates in early HCV infection,
- EPP performers run relatively high risk,
- iatrogenic hep C does exist,

→ **Offer yearly HCV-RNA screening to all EPP performers?**

(mandatory for thoraco-cardial surgeons, orthopedic surgeons and gynaecological surgeons ?)



patient → personnel

Ziekenhuizen

LCI

Accidenteel bloedcontact algemeen

Draaiboek Prikaccidenten

Maatregelen bij accidenteel contact met bloed of andere lichaamsvloeistoffen die tot infectie met HBV, HCV of HIV kunnen leiden

Juli 2005

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Vergewis u er van dat u de meest recente versie van dit document hebt. Raadpleeg hiervoor www.wip.nl. De Werkgroep Infectiepreventie aanvaardt geen aansprakelijkheid voor versies van een richtlijn niet meer verantwoordelijk voor eerdere versies.

Werkgroep Inf
Vastgest.
Rev.

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HBV-vaccinatie voor
medewerkers met
beroepsgebonden r

Nationaal Hepatitis Centrum
Kenniscentrum voor hepatitis

rivm

Leid

Richtlijn Prikaccidenten



3.

Occupational injuries ('needle stick accidents')
in the Academic Medical Center, Amsterdam,
2003-2007

ARBO/BGD: dr. Gerard Frijstein

Number and nature of reported exposures

| | Total |
|-----------------------------|--------------|
| # Reported exposures | 927 |
| | |
| Needle stick | 69,3% |
| Cut | 15,6% |
| Splash | 10,1% |
| Bite wound | 1,6% |
| Other | 3,3% |

Professions involved; 33,3% in training

| | 2003 | 2004 | 2005 | 2006 | 2007 | Total |
|--------------------------------------|------|------|------|-----------------|-----------------|--------------------|
| Nurse | 54 | 50 | 47 | 46 | 50 | 247 (26.6%) |
| Junior physician, in training | 22 | 25 | 26 | 32 | 27 | 132 (14.2%) |
| Senior medical student | 14 | 22 | 17 | 23 | 28 | 104 (11.2%) |
| Senior physician (specialist) | | | | | | |
| Laboratory technician | | | | | | |
| OR-assistant | | | | | | |
| Junior medical student | 6 | 3 | 4 | 22 ^A | 16 ^A | 51 (5.5%) |
| Doctor's assistant | | | | | | |
| Junior physician, not in training | | | | | | |
| Nurse in training | 2 | 7 | 5 | 5 | 3 | 22 (2.4%) |
| Radiology technician | | | | | | |
| Anaesthesiology assistant | | | | | | |
| Cleaning | | | | | | |
| Sterilisation | | | | | | |
| Other profession | | | | | | |
| | | | | | | |
| Total | 167 | 186 | 173 | 204 | 197 | 927 |

Activities involved

| | 2003 | 2004 | 2005 | 2006 | 2007 | Total |
|--|-----------|-----------|-----------|-----------|-----------|--------------------|
| Activity | | | | | | |
| Cleaning up after medical procedure | 41 | 45 | 52 | 52 | 48 | 238 (25.7%) |
| Operation, stitching | | | | | | |
| Blood sampling | | | | | | |
| Handling of i.v. drip | | | | | | |
| Laboratory activities | | | | | | |
| Injection | | | | | | |
| Recapping | 11 | 13 | 8 | 10 | 8 | 50 (5.4%) |
| Patient care | | | | | | |
| Assistance during operation | | | | | | |
| Handling of catheter or drain | | | | | | |
| Other activities | | | | | | |
| | | | | | | |
| Total | 167 | 186 | 173 | 204 | 197 | 927 |

Infection status of source, HBV immune status of personnel

| Infection status of patient (source) | 2003 | 2004 | 2005 | 2006 | 2007 | |
|---|------------|------------|------------|------------|------------|--------------------------------------|
| number of patients | 167 | 186 | 173 | 204 | 197 | 927 |
| no. of infections in patients | 14 | 15 | 11 | 23 | 18 | 81 inf. in 71 patients (7.7%) |
| HBV immune status of personnel: | | | | | | |
| Protected | | | | | | 85.0% |
| Unprotected | | | | | | 5.0% |
| Unknown | | | | | | 10.0% |

Summary: 5 yrs, 927 incidents

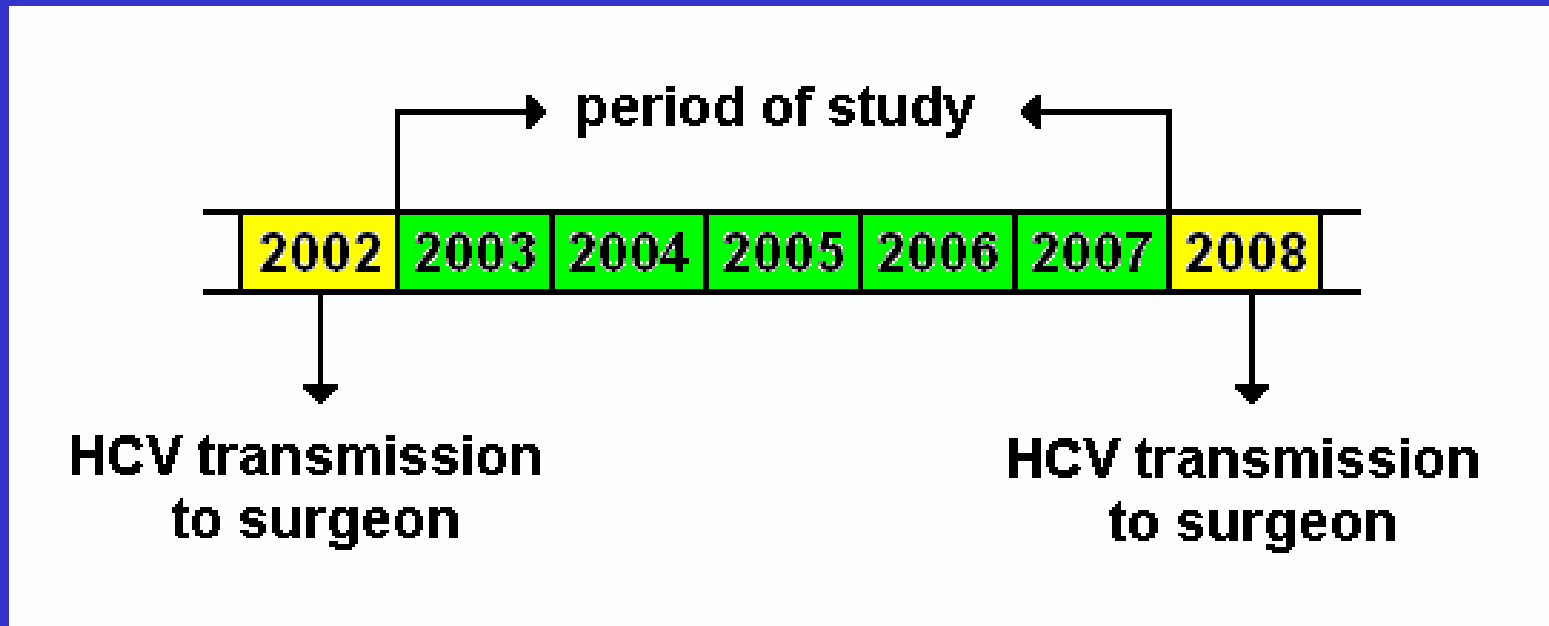
- Most common: needle stick injury (69%)
- Most often: in trainees (33%)
- Most frequent: after medical procedure

while

- 8% of sources was HBV/HCV/HIV positive
- 5% of personnel was not HBV immune

→ introduction of safety devices;
awareness programs

AMC 2003-2007: did transmissions occur?



Management of HCV+, EPP-performing
health care workers
deserves concerted European action

Occupational Health Service – AMC:

G.Freijstein

J.Hortensius

Committee for prevention of iatrogenic hep.B:

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G.Weers, J.van der Noordaa, H.Zaaijer**