26th epatitis B, hepatitis C, and other blood-borne infections in health-care workers


“Look-back studies”

Vincenzo Puro, Paola Scognamiglio
Retrospective investigation

- triggered by the identification of HCW with B-B pathogen infection, following or not documented cases of HCW-to-Pts transmission and
- conducted on patients potentially exposed to the infected HCW
LOOKBACK STUDIES

Objectives

✓ TO INFORM PATIENTS ABOUT THE DEGREE OF RISK
✓ TO DETECT INFECTIONS and TO PROVIDE CARE
✓ TO PREVENT FURTHER TRANSMISSION
✓ TO COLLECT DATA TO ESTIMATE THE RISK
1. WHEN A PATIENT NOTIFICATION EXERCISE SHOULD BE CONDUCTED?

2. HOW FAR BACK PATIENT NOTIFICATION SHOULD GO?

3. WHICH PATIENTS SHOULD BE INCLUDED?

Lookback ........ to available evidence ........
<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Episodes</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>HCWs</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>Look back studies</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>Exposed</td>
<td>29,507</td>
<td></td>
</tr>
<tr>
<td>Tested</td>
<td>20,100</td>
<td></td>
</tr>
<tr>
<td>Identified</td>
<td>360 (1.8%)</td>
<td></td>
</tr>
</tbody>
</table>
HCW-to patient HBV transmission 1972-2005

HBV Look back studies

Index HCW 6
Index Pts 20
HCW-to patient HBV transmission 1972-2005

HBV Look back studies

Index HCW 6

3 positive
8/635 (1.26%)

3 negative
0/175
HBV-to patient HBV transmission 1972-2005

HBV Look back studies

Index Pts
20

4
(HCW HBeAg neg)

0/444

15

272/8,602
(3%)

1
repeated clusters

18,567 exposed
10,244 tested
75 infected
HCW-to patient HIV transmission

HIV Look back studies

- Index HCW 50
- Index Pts 3
HCW-to patient HIV transmission

HIV Look back studies

Index HCW 50

1 positive

1 case
Lot et al 1999
Ann Intern med

49 negative
(35,000 pts)
HCW-to patient HIV transmission

HIV Look back studies

Index Pts
3

1 positive

1 cluster
Florida outbreak
exp 1600
test 1100
cases 5

2 negative

0/275
Spain 2001
Gyn-Obst

0/2293
Astagneau 2002
AJIC

exp 7580
contacted 5308
tested 2293
HCW-to patient HCV transmission

HCV Look back studies

Index HCW 5

Index Pts 7
HCW-to patient HCV transmission

HCV Look back studies

- Index HCW 5
- Index Pts 7
- Index cluster 2

  - IVDU HCW Israel 32/1177
  - IVDU HCW Spain 211/2000
HCW-to patient HCV transmission

From: ProMED-mail promed@promedmail.org
Source: The Harlow Star, Tue 29 May 2001

Consequences of nosocomial transmission of HCV in Surrey hospital

Hospital chiefs in Harlow (Essex) are offering blood tests to more than 70 patients after a former member of staff was found to have contracted hepatitis C.

An investigation began in the autumn after the virus was transmitted to a patient at Epsom General Hospital in Surrey. The infection was traced to an individual who went on to work in the Women's Health Department at Princess Alexandra Hospital (PAH) [in Harlow, Essex] and has since left. A search through 850 patient records at PAH covering the period from autumn 2000 to early this year [showed] that 67 mothers and 7 babies may have been placed at risk. Those affected have now been informed by letter and offered blood tests.
HCW-to patient HCV transmission

HCV Look back studies

- Index HCW 5
- Index Pts 7
HCW-to patient HCV transmission

HCV Look back studies

Index HCW
5

4 positive
1 negative

8/7109 definite
+ 4 probable
0/432
HCW-to patient HCV transmission

HCV Look back studies

Index Pts
7

3 positive
14/5055

3 negative
0/3311

1 N.A.
HCW-to patient B-B transmission
Look-back studies

HBV

- Index HCW: 8/810 (1%)
- Index Pts: 272/9046 (3%)

Crude OR 21.1
95% CI 13.4-33.5
p 0.00000

HCV

- Index HCW: 8/7541 (0.1%)
- Index Pts: 14/8366 (0.16%)

Crude OR 52.0
95% CI 7.5-103
p 0.00000

HIV

- Index HCW: 1/35,000 (0.003%)
- Index Pts: 0/2568 (0%)
HCW-to patient B-B transmission
Look-back studies

**HBV**
- Index HCW 8/810 (1%)
- Index Pts 272/9046 (3%)
  - Crude OR 0.3
  - 95% CI 0.15-0.67
  - p 0.001

**HCV**
- Index HCW 8/7541 (0.1%)
- Index Pts 14/8366 (0.16%)
  - Crude OR 0.6
  - 95% CI 0.24-1.61
  - p 0.4
LOOKBACK studies

Complicated: time and resource consuming

✓ Define the period: when the HCW was infected, how far back
✓ Define at risk population: which cases should be included
✓ Trace cases: medical records, theatre registers, etc
✓ Contact cases: GP, letter, help line, etc
✓ Test consenting patients:
✓ Allocate resources: cost and personnel
✓ Manage media
✓ etc. etc

What can we do?
Two phase look-back exercise – CDRw Feb 3, 2005

2003 index case: HCV infected gyn/obst

Look-back exercise

The most recent 500 women were contacted, 432 tested, no HCV +

One patient who was outside the restricted number, referred to the hospital because of HCV infection that was assessed as acquired from the HCW

Second phase started on Jan 2005: extended to all the 2350 Pts who underwent EPP and for whom the adresses were available
Discussion

Main objectives of a screening program for infectious diseases are
• to identify persons unaware to be infected
• to reduce further transmission

Prerequisite
• feasibility
• availability of effective treatment
• availability of preventive measures

Cost effectiveness
• evaluated in terms of QALY spared
• compared with other public health interventions
Discussion

Further objectives related to occupational medicine are:
• to protect the ill workers from other occupational hazards that could worsen their underlying illness
• protecting patients from any possible hazards


Conclusions

Mandatory/compulsory HBV vaccination should be implemented since medical schools

It is time to reconsider a wider use of HCV and HIV voluntary screening for HCW, including post-exposure and regular, scheduled testing