Hepatitis C in Haemophilia

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# Life expectancy of persons with Haemophilia in Sweden 1831-1980

Larsson SA, BJH 1985; 59:593-602

## Table II. Median life expectancy (years)

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td></td>
<td>Sev</td>
<td>Mod</td>
<td>Mild</td>
<td>Sev</td>
</tr>
<tr>
<td>Haemophiliacs</td>
<td>11.4</td>
<td>27.5*</td>
<td>—</td>
<td>23.3</td>
</tr>
<tr>
<td>Swedish men (period)</td>
<td>61.7 (1891–1900)</td>
<td>71.7 (1936–40)</td>
<td>75.3 (1956–60)</td>
<td>75.6 (1976–80)</td>
</tr>
</tbody>
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Sev = severe; Mod = moderate. * Unreliable data due to a small number of patients.
Survival in men in the United Kingdom with hemophilia who were not infected with HIV and in the general male population of the United Kingdom in 1999.

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Infections in all Sheffield adults with haemophilia (treated pre-1985)

<table>
<thead>
<tr>
<th>Virus</th>
<th>% positive</th>
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<tbody>
<tr>
<td>Previous hepatitis A</td>
<td>37.2</td>
</tr>
<tr>
<td>Current hepatitis B</td>
<td>2.1</td>
</tr>
<tr>
<td>Previous hepatitis B</td>
<td>48.1</td>
</tr>
<tr>
<td>Hepatitis C</td>
<td>100</td>
</tr>
<tr>
<td>HIV</td>
<td>26.1</td>
</tr>
</tbody>
</table>
Why were most adults with haemophilia infected with hepatitis C?

• **Risk to persons with haemophilia**
  – 1 vial FVIII made from plasma of 25,000 donors
  – 2 vials weekly – 2,600,000 donor units per year
  – 10 years treatment – 26 million donor units

• **Prior to 1985**
  – No viral inactivation of concentrates

• **Hepatitis C in blood donors**
  – Sheffield 1 in 2,000 blood donors
Hepatitis C after first exposure to FVIII
Natural history haemophilia cohort

- All patients ever diagnosed with hepatitis C at 3 centres entered
- Sheffield, Utrecht, Royal Free – London
- Start of natural history: Date of first exposure to clotting factors ie likely date of infection
- End of natural history: date of end stage liver disease (ESLD), death, start of anti-HCV treatment or last clinical evaluation (whichever came first)
Patient Characteristics

- 847 patients
- First exposure median: 14y (<1-77)
- Median follow-up: 27y (3-42)
- Total follow-up: 22,259 person years
- Haemophilia A 76%, B 15%

- Dead patients: 199 (24%)
  - HIV related 73, liver related 55, other 71
Spontaneous Clearance

- 160 of 847 (19%) cleared the hepatitis C spontaneously after infection

- Spontaneous clearance = HCV RNA negative but HCV Ab positive, not due to antiviral therapy
Cumulative incidence of ESLD

- Chronic hepatitis C
- Spontaneous clearance
Cumulative incidence of ESLD

- HIV +, HAART -
- HIV +, HAART +
- HIV -

Time since first exposure (years)
Rate of ESLD and response to interferon

Time since end of IFN-based therapy (years)

No response to IFN (n=149)
SVR after IFN (n=146)
EUHASS
(European Haemophilia Safety Surveillance)

- Adverse event surveillance scheme
- All adverse events inc inhibitors
- All products
- All inherited bleeding disorders
- All severities
- Sentinel centres in Europe
- Prospective

- Started 1st Oct 2008
EUHASS Participating Centres
EUHASS Reportable Events

- Inhibitors
- Transfusion transmitted infections
- Allergic reactions
- Thromboses (DVT or PE, MI or Stroke)
- Malignancies
- Deaths