Hepatitis E virus *genotype 3*, the Dutch experience

TTID - WP June 26th 2015

Hans L. Zaaijer MD PhD
Sanquin - Blood-borne Infections &
Academic Medical Centre - Clinical Virology
Amsterdam NL

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**Monthly donorscreening for HEV RNA in NL**

~2000 donations/month; in pools of 96; for SD-plasma production

Dutch donations screened for HEV RNA

overall: 57 / 73341 (1:1287) donations HEV RNA+
last 12 months: 1:852 HEV RNA+
HEV RNA positive blood donors

- all donors seroconvert
- index donations:
  - 2/3 seronegative
  - HEV RNA range:
    - pos < 20 - 2,3E6 IU/mL
- avg. duration of viremia:
  - 68 days
- normal or slightly elevated ALT

(Submitted)
anti-HEV seroprevalence: age cohort effect

Hogema et al., Transfusion 2014

anti-HEV seroprevalence: recent increase among young donors

Hogema et al., Transfusion 2014
less HEV among vegetarian donors

(AMC) boy A, 10 yrs
2006: severe pneumococcal infection → HUS → kidney Tx in 2008
2011-2013: chronic hepatitis Eci, ‘drug induced liver injury’ (dili) ?

A. Bouts, Pediatrics 2015, vol 135, nr 4
HEV: inactivation and removal

Sanquin's ad interim assessment of HEV and blood safety:

Effective removal or inactivation:
- Planova15N of Planova20N filtration
- Pasteurisation at 60 °C
- Immunoaffinity chromatography purification

Limited or no inactivation:
- SD treatment
- Low-pH treatment
- Alcohol fractionation
- Neutralisation by anti-HEV antibodies
  (due to a protective lipid layer covering HEV virions in blood:
   only neutralisation in serum or cell cultures after SD- or protease treatment)

See:
Summary of workshop presentations in Appendix to reflection paper, of the “EMA Workshop on viral safety of plasma-derived medicinal products with respect to hepatitis E virus” (London, Oct. 28th/29th, 2014); aimed to be released for public consultation in July 2015.

"Post-transfusion hep E" in NL ; policy

Cave pseudo transmission:
11 cases of “post-transfusion hep E” notified to Sanquin:
  10 : all implicated donations HEV PCR negative.
  1 : 1 implicated donor HEV RNA pos. (low viremia, aHEV-IgG ++).

> donorschreening only would have prevented 1/11 notified Dutch cases.
(NB several HEV transmissions via transfusion have been reported elsewhere)

Sanquin's point of view:
- Instead of (selective) donorschreening, transmission routes to donors and patients must be clarified and removed.
- June 12th 2015: For the time being this approach is supported by expert meeting at National Institute for Public Health.
- impact of policy elsewhere, eg. in UK?
HEV team at Sanquin:

Boris Hogema
Michel Molier
Ed Slot
Hidde Koot
Hans Zaaijer

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