



EEA Grants: Programa Iniciativas em Saúde Pública (PT06)
REUNIÃO COM OS PROMOTORES DE PROJETO FINANCIADOS
Lisboa, 29 de Junho 2015

HEPeCONTROL – Hepatitis E virus epidemiology, safety and control
60DT2

Maria São José Garcia Alexandre



Hepatitis E virus (HEV)

- HEV is nowadays considered an emerging agent in industrialized countries ... and a concern for Public Health

Review

Journal of Clinical Virology 59 (2014) 81–88

Hepatitis E: An emerging infection in high income countries

J.E. Arends^{a,g,*}, V. Ghisetti^{b,g}, W. Irving^{c,g}, H.R. Dalton^d, J. Izopet^e,
A.I.M. Hoepelman^{a,g}, D. Salmon^{f,g}

Journal of Clinical and Translational Hepatology **2014** vol. 2 | 7–14

Review Article

Autochthonous Hepatitis E Virus Infection in Europe: A Matter of Concern for Public Health?

José-Manuel Echevarría

Department of Virology, National Centre of Microbiology, Instituto de Salud Carlos III, Madrid, Spain

Hepatitis E virus (HEV)

- HEV has a well established zoonotic transmission through swine ...and some risk groups are identified

Med Microbiol Immunol (2012) 201:239–244

Prevalence of hepatitis E virus-specific antibodies in humans with occupational exposure to pigs

Andi Krumbholz · Ulrich Mohn · Jeannette Lange · Manfred Motz ·
Jürgen J. Wenzel · Wolfgang Jilg · Mario Walther · Eberhard Straube ·
Peter Wutzler · Roland Zell

Journal of Clinical Virology 58 (2013) 504–508

Hepatitis E virus seroprevalence and risk factors for individuals in working contact with animals

Hélène Chaussade^a, Emma Rigaud^b, Aurore Allix^{c,d}, Audrey Carpentier^{c,d},
Antoine Touzé^{c,d}, Didier Delzescaux^f, Patrick Choutet^{a,b}, Nathalie Garcia-Bonnet^b,
Pierre Coursaget^{c,*}

- but other routes of transmission have been documented ...

RAPID COMMUNICATIONS

Euro Surveill. 2014;19(21):pii=20812.

Transfusion-transmitted hepatitis E in Germany, 2013

D Huzly¹, M Umhau², D Bettinger³, T Cathomen², F Emmerich², P Hasselblatt³, H Hengel¹, R Herzog², O Kappert⁴, S Maassen⁴, E Schorb⁵, C Schulz-Huotari², R Thimme², R Unmüßig⁴, J J Wenzel⁶, M Panning (marcus.panning@uniklinik-freiburg.de)¹

Emerging Infectious Diseases Vol. 13, No. 4, April 2007

Transfusion-associated Hepatitis E, France

Transfusion Medicine
and Hemotherapy

Review Article

Transfus Med Hemother 2014;41:29–39
DOI: 10.1159/000357098

Autochthonous Hepatitis E Virus Infections: A New Transfusion-Associated Risk?

RESEARCH ARTICLES

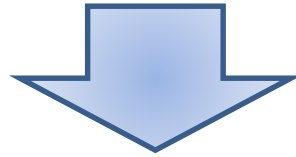
Euro Surveill. 2013;18(31):pii=20550.

Silent hepatitis E virus infection in Dutch blood donors, 2011 to 2012

E Slot^{1,2}, B M Hogema^{1,2}, A Riezebos-Brilman³, T M Kok¹, M Molier¹, H L Zaaier (h.zaaier@sanquin.nl)^{1,4}

1. Department of Blood-borne Infections, Sanquin Blood Supply Foundation, Amsterdam, the Netherlands
2. These authors contributed equally to this study
3. Department of Medical Microbiology, University Medical Center Groningen, Groningen, the Netherlands
4. Department of Clinical Virology (CINIMA), Academic Medical Center, Amsterdam, the Netherlands

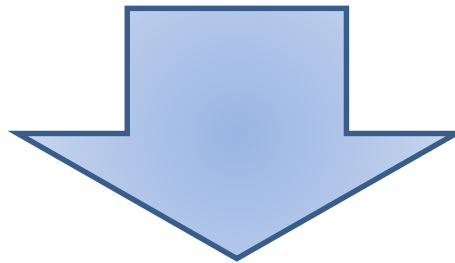
- ... and other routes of transmission have been suspected like porcine-derived pharmaceutical products



Emerging Infectious Diseases Vol. 19, No. 4, April 2013

**Hepatitis E
Virus and
Porcine-derived
Heparin**

- In Portugal only a few geographically focused studies on HEV are available and no large-scale HEV seroprevalence study has ever been done;
- The risk of blood donations from infected donors is unknown
- No professional risk groups have been identified



HEPeCONTROL

Aims of the project:

1 – To study the prevalence of HEV infection among the Portuguese general population

~1500 serum samples/ representative Portuguese population (regions NUTSIII) / tested for IgG and IgM anti-HEV (ELISA) and confirmed by Immunoblot/ IgM anti-HEV positive samples searched for the presence of HEV RNA/sequencing of isolated strains

2 – To evaluate the HEV infection among butchers and slaughterhouse workers (risk groups)

~100 serum samples / butchers and slaughterhouse workers/ tested for IgG and IgM anti-HEV(ELISA) and confirmed by Immunoblot/IgM anti-HEV positive samples searched for the presence of HEV RNA/sequencing of isolated strains

3 – To evaluate silent HEV infection in Portuguese blood donors

~1500 serum samples / blood donors/ tested for IgM anti-HEV (ELISA) and confirmed by Immunoblot/ IgM anti-HEV positive samples searched for the presence of HEV RNA/sequencing of isolated strains .

4 – To evaluate the risk of porcine-derived pharmaceutical products

5 select porcine-derived pharmaceutical products (heparin, rotavirus vaccine, ...) will be searched for the presence of HEV RNA /sequencing of isolated strains

Hepatitis E virus epidemiology, safety and control

Ethics Committee for Health (Centro Hospitalar S. João) Approval 99/2015

Message from the Coordinator

Hepatitis E virus (HEV) is nowadays considered an emerging agent in industrialized countries, with an established zoonotic transmission through swine. In Portugal only a few geographically focused studies on HEV are available and no large-scale HEV seroprevalence study has ever been done, no risk groups have been identified and the risk of blood donations from infected donors is unknown. Portugal is a pioneer in vaccination programs and a top example in Europe. To help maintain the leading position in vaccine preventable diseases, this project will generate data needed for the decision on the introduction of a HEV vaccine already available.

Maria São José Garcia Alexandre, PhD

Full Professor, Head of the Microbiology Laboratory

Faculty of Pharmacy, University of Porto



<http://hepecontrol.weebly.com/>

Project Promoter

Maria São José Garcia Alexandre
Faculty of Pharmacy, University of Porto (FFUP)

Donor State



Project Partners

Norwegian University of Life Sciences, School of Veterinary Science

Mette Myrnel
Norwegian University of Life Sciences – School of Veterinary Science (NMBU)

João Rodrigo Mesquita
Polytechnic Institute of Viseu - Agrarian Superior School (IPV-ESAV)



Norwegian Institute of Public Health – was excluded due to conflict of interest

Sofie Samdal Vik, Department of Virology/Division of Infectious Disease Control

Call 22nd June 2015



PROGRAMME PUBLIC HEALTH INITIATIVES
FUNDS FOR BILATERAL RELATIONS