

Feasibility Study of Hepatitis A Surveillance Network

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The project

- One year feasibility study
23/09 2002 – 23/09 2003
- To evaluate need and scope of a network for surveillance of hepatitis A
- Supported by DG SANCO European Union



The aim of the feasibility study

- Evaluate the need and scope of a network for surveillance on hepatitis A
- Molecular typing of hepatitis A both in outbreaks and sporadic cases
- A data bank containing all sequences obtained
- Detection of possible spread of the same type of hepatitis A strains in different countries



The project group in Sweden

- Professor Johan Giesecke, project responsible
- Head Epidemiologist Yvonne Andersson, project leader
- Dr Ivonne Camaroni, epidemiologist
- Dr Helene Norder, virologist
- Lena Sundqvist, virologist
- Ass Professor Lars Magnus, virologist
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Countries involved in the project

Austria	Luxemburg
Belgium	Netherlands
Denmark	Norway
Finland	Portugal
France	Spain
Germany	Sweden
Iceland	Switzerland
Ireland	United Kingdom
Italy	



The objectives of the project were to investigate:

- If hepatitis A was reported and discriminated from other kinds of viral hepatitis in the European countries
- Which kind of data are collected, case definition, timeliness, analyses, trends over time and reports of outbreaks
- What type of laboratory methods are used to diagnose hepatitis A
- How many microbiological laboratories use strain characterisation
- Investigate the methods used in laboratories involved in molecular characterisation



Meetings

- One consulting meeting was held with one epidemiologist and one virologist from each country
- Participants from other EU founded hepatitis A projects were participating (HEPNET, Basic Surveillance Network, Food Borne Virus in Europe now DIVINE)
- A working group was formed that had one meeting



Expected results of the project

- Proposal for a collaborative network for surveillance of hepatitis A in Europe
- A proposal for a subtyping method that could be used in Europe



Results from the questionnaires

Hepatitis A was included in the national surveillance system in all 17 countries

- Hepatitis A is mandatory to report in most countries
- In 14 countries on individual basis
- Age, gender and residence were reported by all countries



Results from the epidemiological questionnaire

- Eight countries consider hepatitis A endemic



Results from the questionnaires

- Serology was conducted in all countries
- Most countries conducted PCR for HAV detection. Four countries conducted isolation of hepatitis A virus (in cell cultures)
- Seven laboratories performed genotyping (sequencing) of the hepatitis A virus



Results from the questionnaires

- Eight countries had a procedure for detecting HAV outbreaks (increases number, genotyping, clustering)

OUTBREAK DETECTION

- 8 out of 16 laboratories have a procedure for the detection of outbreaks of HAV.

Different methods used to detect outbreaks

Increase in total number of cases	Genotyping and sequencing	Acute hepatitis A cases (IgM) as clusters	Oral fluid investigation for antibodies
5	3	1	1

- 6 laboratories have identified outbreaks since 1995.
- The number of outbreaks varies from 1 to 32.



Results from the questionnaires

PCR

- **10 out of 16 laboratories perform PCR for HAV.**

Specimen	Yes	No
Serum samples	7	9
Fecal samples	6	10
Food	4	12
Water	6	10

Information to be reported in a European surveillance system

- Country, identifier, region
- Year of birth, date of onset (reporting)
- Suspected mode of transmission
- Country of infection, if travel related
- Sporadic or linked cases
- Diagnosis HAV-IgM or HAV-PCR sub-typing sequencing



Outbreak reporting and early warning

- Small local outbreaks (e.g. day care centres) should not be reported
- Cross-border implications (food and water born)
- Risk groups as intravenous drug user
- New HAV strains should be reported



Laboratory cooperation and sequencing data collection

- Molecular detection and typing of HAV
- Training and exchange of laboratory personnel



Conclusions

- EU collaborative hepatitis A surveillance network would have an important role
- To detect, control and reduce the number of sporadic cases
- To detect outbreaks
- Harmonising methods
- Rapid exchange of data, with improvement of the existing Early Warning system.



The future

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