4th International HIV/Viral Hepatitis Co-Infection Meeting

The Rocky Road to Viral Hepatitis Elimination:
Assuring access to antiviral therapy for ALL co-infected patients from low to high income settings

Saturday - Sunday, 22-23 July 2017
Paris, France
Hepatitis A, still there

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HAV virology

- Naked RNA virus first visualized in 1973
- Hepatovirus genus, Picornaviridae family

- No antigenic variation
  - An effective vaccine available since early 90s
- 3 genotypes infect humans
  - Highly conserved with few genetic variation across transmission cycles
  - Genetic signature of geographical origin
  - Easy detection of transmission clusters

HAV transmission

- HAV is excreted in the stool of infected subjects and remains infectious in environment ⇒ Fecal-oral spread
  - from person to person: “dirty hands infection”
  - by contaminated objects or surfaces
  - by contaminated water
  - by contaminated food
    - infected food handler
    - use of contaminated water for production
Hepatitis A

- One of the most common infectious causes of acute hepatitis worldwide
- 2-6 weeks incubation
- Age-dependent frequency of symptomatic cases: rare <5y, very frequent >14y
- Relapsing or prolonged infections in 4-20%
- Fulminant hepatitis <0.1% but 1% >50y

Viral excretion starts 1-2 weeks before symptoms
Viremia/excretion detected >1mo after symptoms onset.
HAV seroprevalence

Endemicity depends on socio-economic indicators

- Socio-economic improvement
- Smaller family size
  ⇒ Decreased circulation of the virus

Jacobsen, Vaccine 2010; WHO/IVB/10.01: www.who.int/vaccines-documents/
HAV seroprevalence

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- Socio-economic improvement
- Smaller family size
  \[\implies\] Decreased circulation of the virus

- Regression of high endemicity areas
- Paradoxical increase in morbidity and mortality
- WHO recommends HAV vaccine for children aged $\geq 1$ year in areas with changing epidemiologic profiles

Jacobsen, Vaccine 2010; WHO/IVB/10.01: www.who.int/vaccines-documents/
HAV, a threat in Europe?

- Significant decrease of seroprevalence
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- Gradual incidence decrease: <3 /100 000
  - With variations by countries
  - Seasonality of incident cases: infections are mainly travel-associated with limited secondary cases

HAV, a threat in Europe?

- In low endemicity areas, more adults are susceptible to infection
- Symptomatic cases are more frequent / more severe
- Risk of large outbreaks
  - Foodborne outbreaks: cross-border outbreaks with exposition to the same contaminated item distributed in several countries: semi-dried tomatoes, frozen berries
  - Clustered infections among risk groups: Transmission networks with poor hygiene or promiscuity: Travelling community, MSM, IDU
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Improvement of socioeconomic indicators and /or Large scale vaccination programs

↓ seroprevalence  
↓ incidence in general population

Non immune high risk groups

Exponential spread

Diffusion to general population
Are MSM really at risk?

- Outbreaks reported since early 80s: Often monophyletic, with duration up to 4y
- Case-control studies identified associated risk factors:
  - Anonymous sex partners, group sex, oral-anal and digital-rectal intercourse, having sex in gay saunas, visiting saunas and darkrooms
- Estimates of R0 among MSM: 1.71–3.67 and threshold immunity: ~70%

⇒ Targeted vaccination of MSM

- Frequent HIV infection among HAV cases: 15-60%
  - No difference in disease severity between HIV+ and HIV-
  - Longer viremia and stool shedding in HIV+

⇒ Routine HIV testing

Ongoing outbreaks among MSM

Taiwanese outbreak

Since 2015 >1000 indigenous cases
>70% in MSM
60% had HIV infection
>60% had syphilis or gonorrhea

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Ongoing outbreaks among MSM

**Taiwanese outbreak**

- Number of indigenous cases of acute hepatitis A reported to Taiwan CDC
- Initial notification of HAV in 2 HIV-positive MSM
- Start of vaccination campaign against HAV at designated hospitals
- Start of public funded HAV vaccination by Taiwan CDC

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**European outbreak**

- Dec. 2016: 1st RRA of ECDC reporting distinct genotype IA strains among MSM in UK, Netherlands and Germany

**RIVM HAV16-090: « Europride »** = Taiwanese strain

**RIVM HAV16-096: « UK travel to Spain »**

Netherland cases: Freidl, EuroSurveill 2017
Ongoing outbreak among MSM

3rd ECDC risk assessment jun 28th

From Jun 2016: 1500 Confirmed/genotyped HAV cases + 2660 probable or suspected cases mainly in MSM

Outbreak involve most EU countries

Countries with cases infected by VRD_521_2016 (n=802)
Ongoing outbreak in France

HAV cases Jan 2016- May 2017

771 notified cases jan-jun 2017

>80% males

By July 2017 the NRC reported > 500 cases infected by 1 of the 3 epidemic strains
Control measures

Inform and Vaccine!

- Targeted messaging: Innovative communication strategies through social media, apps and gay venues
  ⇒ Promote hygiene advice and vaccine campaigns
  ⇒ Free HAV vaccine offered MSM

Some difficulties:

- limited awareness of some health care workers and patients
- Limited HAV vaccine availability impacts timely implementation of these measures
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