

P1426

Paper Poster Session

How to diagnose and transmit hepatitis E

Different seroprevalence of hepatitis E virus among Dutch and first-generation migrant populations in Amsterdam, the Netherlands

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Background: Hepatitis E virus (HEV) infection is usually asymptomatic but may cause chronic liver disease in immune-compromised persons. HEV is transmitted via the fecal-oral route and in non Western countries transmission occurs during water-borne outbreaks by genotypes 1 and 2. In developed countries HEV infection is probably a zoonosis, since identical HEV genotype 3 was found in humans and consumption animals (mainly pigs). The recent increase of HEV seroprevalence in the Netherlands was found to be non-travel related. Considering the various routes of transmission, we now studied the seroprevalence of HEV among different ethnicities, and compared the seroprevalence of mainly Moroccans and Turks to that of the native Dutch population in Amsterdam, the Netherlands.

Material/methods: Data were obtained from a cross-sectional survey in 2004 of the Amsterdam adult population, the Amsterdam Health Monitor (AHM). Migrant populations were oversampled to ensure data being representative for the total population. Plasma samples were tested for IgG-and IgM antibodies to HEV using the Wantai kit (Beijing, China). Demographic data (gender, age, country of birth, and age at immigration) were used in statistical analyses. Weighted seroprevalence was calculated using the fraction per ethnicity from the Municipal Registry of Amsterdam in the complex samples module of SPSS.

Results: In total 1294 AHM participants were included. The weighted anti-HEV IgG seroprevalence in the adult population was 25% (Table 1) and this HEV seroprevalence increased with age ($p < 0.01$). First-generation Moroccan migrants (44%) had a higher weighted HEV seroprevalence than the Dutch (30%). The weighted HEV seroprevalence in first generation Turks (19%) and in first generation migrants from other countries (17%) was lower compared to that in the Dutch. None of the second generation Moroccan and Turks were HEV seropositive. The weighted HEV seroprevalence in second generation migrants from other countries was 14% (Table 1). Only 0.5% ($n=7$) had IgM antibodies to HEV, showing few acute infections.

Ethnicity	N	HEV IgG Positive (%)	Weighted %	95% CI*
Dutch	426	157 (36.9%)	29.7	25.7 - 34.0

Moroccan	1 st generation	257	161 (60.1%)	43.7	36.6 - 51.1
	2 nd generation	11	0	--	--
Turkish	1 st generation	300	101 (33.7)	19.1	14.6 - 24.5
	2 nd generation	1	0	--	--
Other[#]	1 st generation	221	42 (19.0%)	16.9	12.0 – 23.3
	2 nd generation	62	15 (24.2%)	13.8	7.0 - 25.4
Total		1294	497 (37.0%)	25	22.3 - 27.9

*CI: credibility interval; bold face: significant difference relative to Dutch

#: Other countries include: Surinam, Dutch Antilles, Indonesia.

Conclusions: HEV seroprevalence in first generation migrant populations differed significantly from the Dutch population in Amsterdam. The Moroccan and Turkish seroprevalence differences may reflect the HEV seroprevalence in the country of origin. However also other factors such as different food habits may contribute to these differences.