Epidemiology of respiratory coronaviruses (HCoV) in a Dutch university hospital

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Aim: The epidemiologic characteristics of HCoV-NL63, HCoV-HKU1 and HCoV-OC43 and HCoV-229e in adult and paediatric patients were investigated. Furthermore, the genetic variability of HCoV-NL63 and HCoV-OC43 strains was investigated.

Methods: Studies were performed on respiratory samples submitted to the Virology Laboratory of the Erasmus MC for routine respiratory virus detection between June 2004 and June 2005. Samples were analysed for the presence of human coronaviruses using real-time nucleic acid amplification. Patient records were reviewed for patients tested positive.

Results: 1376 Samples were submitted. 70 Coronavirus positive samples (5.1%) were detected from 54 patients: for HCoV-OC43 40 samples from 31 patients, for HCoV-229e 1 sample from 1 patient, for HCoV-NL63 27 samples from 23 patients and for HCoV-HKU1 2 samples from 2 patients. Three patients were positive for more than one coronavirus. Other respiratory viruses were found in seven HCoV-NL63 and 9 HCoV-OC43 positive patients, respectively 30% and 29%. Peak incidences appeared during winter and springtime. For HCoV-OC43 a left skewed age distribution was found with a peak detection rate in patients 0–9 years old; median age 2.5 years. HCoV-NL63 detection rates equalled for patients 0–9 years old and 50–59 years: median age 34.8 years. 40 Patients (74%) than one coronavirus. Other respiratory viruses were found in seven HCoV-OC43 and HCoV-229e in adult and paediatric patients.

Conclusion: HCoV-OC43 and HCoV-NL63 were detected in a significant number of paediatric and adult patients, in contrast to HCoV-229e and HCoV-HKU1. Screening for these viruses is warranted.

Trent HCV study: mortality rates and ethnic differences in outcome

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Background: The Trent HCV cohort study was established in 1991 with the aim of characterising the natural history of chronic HCV (CHC) infection; over 2500 patients are enrolled, with a mean length of follow-up of >5 years.

Methods: CHC patients attending one of 7 sentinel clinics are invited to enlist with informed consent. Patient-derived data are stored in a centralised, anonymised database.

Mortality study: patients within the cohort are registered with the National Health Service Central Register. Death certificates and cancer registrations from Trent study patients are forwarded to the study group.

Ethnicity study: relevant data from all CHC patients within the cohort of Caucasian (n=1700) and Indian sub-continent (n=79) ethnic backgrounds were downloaded from the central database and compared.

Results: Of 228 cohort deaths, 87 were "liver related", 51 were related to injecting drug use, and 73 were "unrelated medical". Factors associated with all cause and liver-related mortality were increased age and male gender. Standardised mortality ratios were 6.4 (95% CI 4.6–10.3) and 2.1 (1.5–3.5) for males and females respectively. Compared with CHC in Caucasians, CHC in patients of Indian ethnicity was more likely to occur in females, in individuals with no clear history of risk factors, and presented at an older age with more severe liver disease.

Discussion: 5 year survival in our cohort is less than that reported in the literature; Mortality in HCV-infected patients is markedly increased compared to an age-matched population; CHC in different ethnic groups may have very different characteristics from that in Caucasian patients.

Impact of targeted vaccination on HBV genotypes in Amsterdam

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Background and Aim: The Netherlands have adopted a policy of hepatitis virus (HBV) vaccination targeted towards high-risk groups, rather than universal vaccination. In 1996, a pilot program started in Amsterdam. We performed a retrospective molecular epidemiological cross-sectional survey covering 12 years (1992–2003).

Methods: Mandatory reported HBV cases were classified according to probable mode of transmission. Retrospective DNA sequencing was performed on 85 sera of patients with acute hepatitis B infections. We amplified the S-gene (nt 112–778) for phylogeny. The decline of acute hepatitis B infections in Amsterdam was ascribed to a lack of reported HBV cases among IDU, probably due to a decline in injecting behavior. Increased sexual risk