

EPIDEMIOLOGY

Sporadic cases of acute autochthonous hepatitis E in Spain

J Hepatol 2004 Jul; 41(1):126-31.

Buti M, Clemente-Casares P, Jordi R, Formiga-Cruz M, Schaper M, Valdes A, Rodriguez-Frias F, Esteban R, Girones R.

BACKGROUND/AIMS: In industrialized countries hepatitis E virus (HEV) infection is rare and its diagnosis is difficult because the utility of available tests is not well established.

METHODS: We studied the presence of acute HEV infection markers in a cluster of 11 cases of acute hepatitis with IgG anti-HEV antibodies.

RESULTS: Three cases were confirmed as acute hepatitis E and 8 as presumptive hepatitis E, two as a past HEV infection and one could not be determined. Three different

HEV strains were identified in serum from 3 patients. Two strains belonged to genotype 3, the predominant genotype found in local urban sewage and the other strain belonged to genotype 1 and was considered an imported strain.

CONCLUSIONS: Our findings demonstrate the presence of some autochthonous, sporadic acute hepatitis E cases as well as an imported case in our area and the transitory nature of virological and serological markers for HEV. Inverse association between serum adiponectin level and transaminase activities in Japanese male workers.

Epidemiological study of hepatitis B virus genotypes, core promoter and precore mutations of chronic hepatitis B infection in Hong Kong

J Hepatol 2004 Jul; 41(1):119-25.

Yuen MF, Sablon E, Tanaka Y, Kato T, Mizokami M, Doutreloigne J, Yuan HJ, Wong DK, Sum SM, Lai CL.

BACKGROUND/AIMS: We conducted a population study to document the prevalence of hepatitis B virus (HBV) genotypes in Hong Kong.

METHODS: HBV genotypes, core promoter (CP) and precore mutations were determined in 776 asymptomatic patients.

RESULTS: 92.6% patients had single genotype [B (32.5%), C (62.5%)]. 99.1% of genotype B was subtype Ba. Patients with age <50 years had a lower prevalence of genotype B than patients with age >51 years (32.5% vs. 41%, respectively, $P=0.028$). Compared to patients with genotype C, patients with genotype B had a higher cumulative

rate ($P=0.018$) and younger age (40.1 vs. 34.2 years, respectively, $P=0.018$) of HBeAg seroconversion. There were no differences in the HBV DNA levels between patients with genotypes B and C, and with wild-type and mutants of CP and precore regions. By multivariate analysis, patients with genotype C and with CP mutations had higher alanine aminotransferase (ALT) levels.

CONCLUSIONS: B and C were the two most common HBV genotypes in Hong Kong. The former had a higher chance of earlier HBeAg seroconversion and lower ALT levels. The prevalence of genotype B was lower in patients with age <50, probably related to influx of immigrants from China since 1949.

Epidemiological and clinical study of sporadic acute hepatitis E caused by indigenous strains of hepatitis E virus in Japan compared with acute hepatitis A

J Gastroenterol 2004 Jul; 39(7):640-8.

Sainokami S, Abe K, Kumagai I, Miyasaka A, Endo R, Takikawa Y, Suzuki K, Mizuo H, Sugai Y, Akahane Y, Koizumi Y, Yajima Y, Okamoto H.

BACKGROUND: We compared acute hepatitis E (AH-E) and acute hepatitis A (AH-A) to investigate the epidemiology, clinical features, and prognosis of AH-E caused by an indigenous hepatitis E virus (HEV) in Japan.

METHODS: We enrolled 58 patients diagnosed with AH-A or AH-E (32 men and 26 women; age, 20-72 years) from December 1997 to October 2002. Phylogenetic analysis of the partial 412-nucleotide sequence of open reading frame (ORF) 2 was performed in patients with AH-E.

RESULTS: Regarding the geographic distribution of the HEV genotype, genotype III was principally distributed in Honshu Island, and genotype IV in Hokkaido Island ($P = 0.0034$). The phylogenetic analysis of the ORF2 region revealed that there were significant geographic differences in the distribution of the HEV strains in Japan, with some

strains being widespread and some, localized. In comparison with AH-A patients, those with AH-E were older (56.1 +/- 10.6 vs 45.9 +/- 10.8 years; $P = 0.0017$). The proportion of males among patients with AH-E was significantly higher ($P = 0.0001$). Pyrexia was often observed in AH-A, and malaise in AH-E. Laboratory data indicate that AH-E induces a weak immunological reaction, whereas jaundice appears earlier in AH-E than in AH-A. One patient with AH-E died of acute hepatic failure, but none of those with AH-A died during the study period.

CONCLUSIONS: Our results suggest that there are geographical differences between HEV strains in Japan, and that AH-E is more common in males and older patients than AH-A. Laboratory data indicate a weak immunological reaction and early appearance of jaundice in AH-E.

A large nosocomial outbreak of hepatitis C and hepatitis B among patients receiving pain remediation treatments

Infect Control Hosp Epidemiol 2004 Jul; 25(7):576-83.

Comstock RD, Mallonee S, Fox JL, Moolenaar RL, Vogt TM, Perz JE, Bell BP, Crutcher JM.

BACKGROUND AND OBJECTIVE: In August 2002, the Oklahoma State Department of Health received a report of six patients with unexplained hepatitis C virus (HCV) infection treated in the same pain remediation clinic. We investigated the outbreak's extent and etiology.

DESIGN, SETTING, AND PARTICIPANTS: We conducted a retrospective cohort study of clinic patients, including a serologic survey, interviews of infected patients, and reviews of medical records and staff infection control practices. Patients received outpatient pain remediation treatments one afternoon a week in a clinic within a hospital. Cases were defined as HCV or hepatitis B virus (HBV) infections among patients who reported no prior diagnosis or risk factors for disease or reported previous risk factors but had evidence of acute infection.

RESULTS: Of 908 patients, 795 (87.6%) were tested,

and 71 HCV-infected patients (8.9%) and 31 HBV-infected patients (3.9%) met the case definition. Multiple HCV genotypes were identified. Significantly higher HCV infection rates were found among individuals treated after an HCV-infected patient during the same visit (adjusted odds ratio [AOR], 6.2; 95% confidence interval [CI95], 2.4-15.8); a similar association was observed for HBV (AOR, 2.9; CI95, 1.3-6.5). Review of staff practices revealed the nurse anesthetist had been using the same syringe-needle to sequentially administer sedation medications to every treated patient each clinic day.

CONCLUSIONS: Reuse of needles-syringes was the mechanism for patient-to-patient transmission of HCV and HBV in this large nosocomial outbreak. Further education and stricter oversight of infection control practices may prevent future outbreaks.

Transmission of hepatitis C virus between hemodialysis patients sharing the same machine

Infect Control Hosp Epidemiol 2004 Jul; 25(7):609-11.

Sartor C, Brunet P, Simon S, Tamalet C, Berland Y, Drancourt M.

After a patient acquired hepatitis C virus (HCV) infection in our unit, we performed epidemiologic and virologic investigations, including genotyping and phylogenetic analyses.

The results provided evidence for HCV transmission between two patients sharing the same machine and suggested possible transmission via accidental contamination of the venous pressure monitoring system.

Hepatitis C virus infection in intravenous drug users

Clin Microbiol Infect 2004 Aug; 10(8):768-70.

Harder J, Walter E, Riecken B, Ihling C, Bauer TM.

Abstract Intravenous drug use (IVDU) remains a major means of hepatitis C virus (HCV) transmission. In this study, 101 drug users were studied prospectively after cessation of IVDU. Of these, 75.8% were anti-HCV positive and 71.4% had elevated levels of alanine aminotransferase. These levels decreased significantly within 1 month of IVDU

cessation (p 0.02). Liver biopsies showed minimal or mild fibrosis in 32 (71%) of 45 subjects, and severe fibrosis in two (4.4%) subjects. Anti-HCV-positive intravenous drug users in this study presented with mild liver disease and variable stages of disease progression. Biochemical disease activity might be affected by IVDU.

Prevalence of obesity, diabetes mellitus and hyperlipidaemia in patients with cryptogenic liver cirrhosis

Trop Gastroenterol 2004 Jan-Mar; 25(1):15-7.

Duseja A, Nanda M, Das A, Das R, Bhansali A, Chawla Y.

Non-alcoholic steatohepatitis (NASH) is emerging as an important cause of cryptogenic cirrhosis. Obesity, diabetes mellitus and hyperlipidaemia are important risk factors for

NASH. The presence of these risk factors in patients with cryptogenic cirrhosis may suggest NASH as an aetiology of cirrhosis in them. Twenty-five patients of cryptogenic

cirrhosis were compared with 18 patients of hepatitis B virus and hepatitis C virus related cirrhosis and primary biliary cirrhosis for the presence of obesity, diabetes mellitus and hyperlipidaemia. Patients with cryptogenic cirrhosis were found to have a significantly higher body - mass index

increased prevalence of diabetes mellitus and lower high-density lipoprotein compared to the controls. Increased body weight and diabetes mellitus may play a role in the causation of cirrhosis in patients with cryptogenic cirrhosis.

Transmission of hepatitis B virus in correctional facilities--Georgia, January 1999-June 2002

MMWR Morb Mortal Wkly Rep 2004 Aug 6; 53(30):678-81.

Centers for Disease Control and Prevention (CDC).

Incarcerated persons have a disproportionate burden of infectious diseases, including hepatitis B virus (HBV) infection. Among U.S. adult prison inmates, the overall prevalence of current or previous HBV infection ranges from 13% to 47%. The prevalence of chronic HBV infection among inmates is approximately 1.0%-3.7%, two to six times the prevalence among adults in the general U.S. population. Incarcerated persons can acquire HBV infection in the community or in correctional settings. This report summarizes the results of 1) an analysis of hepatitis B cases among Georgia inmates

reported to the Georgia Department of Human Resources, Division of Public Health (DPH) during January 1999-June 2002, including a retrospective investigation of cases reported during January 2001-June 2002; and 2) a prevalence survey conducted in prison intake centers during February-March 2003. These efforts identified cases of acute hepatitis B in multiple Georgia prisons and documented evidence of ongoing transmission of HBV in the state correctional system. The findings underscore the need for hepatitis B vaccination programs in correctional facilities.

Incidence and risk factors of HCV and HIV infections in a cohort of intravenous drug users in the North and East of France

Epidemiol Infect 2004 Aug; 132(4):699-708.

Lucidarme D, Bruandet A, Ille D, Harbonnier J, Jacob C, Decoster A, Delamare C, Cyran C, Van Hoenacker AF, Fremaux D, Josse P, Emmanuelli J, Le Strat Y, Desenclos JC, Filoche B.

In order to evaluate the incidence and risk factors of infection by hepatitis C virus (HCV) among injecting drug users (IDUs), we conducted a prospective cohort study of HCV- and human immunodeficiency virus (HIV)-negative IDUs in the North and East of France. A total of 231 HCV and HIV IDUs who had injected drugs at least once in their lifetime were followed up every 3 months over a 12-month period. Serum anti-HCV and anti-HIV were tested at inclusion

in the study and at the end of the follow-up. Data on injecting practices were collected at inclusion and at each visit. Of the 231 participants included, 165 (71.4%) underwent a final HCV and HIV serum test. The incidence was nil for HIV infection and 9/100 person-years (95% CI 4.6-13.4) for HCV infection. In a multivariable analysis, we found that syringe and cotton sharing were the only independent predictive factors of HCV seroconversion.

Natural history of hepatitis B in perinatally infected carriers.

Arch Dis Child Fetal Neonatal Ed 2004 Sep; 89(5):F456-60.

Boxall EH, Sira J, Standish RA, Davies P, Sleight E, Dhillon AP, Scheuer PJ, Kelly DA.

OBJECTIVES: To establish natural seroconversion rates and incidence of hepatic pathology in perinatally infected hepatitis B carriers.

METHODS: Seventy three perinatally infected hepatitis B carriers identified through maternal screening were evaluated. Fifty three were born to parents from the Indian

subcontinent, nine were Oriental, six were Afro-Caribbean, and five were white. Median follow up was 10.24 (range 2.02-20.16) years.

RESULTS: Only three of the children followed up had cleared hepatitis B surface antigen during this period, and 30% of the children had seroconverted to anti-HBe. Seroconversions to anti-HBe were observed in Asian (18/50) and white (4/5) children, but not in Oriental or Afro-Caribbean children. More girls (40%) than boys (23%) had seroconverted, but the difference was not significant. All children were asymptomatic with normal physical examination, growth, and development. Almost half (48%) of the hepatitis B e antigen (HBeAg) positive children had normal hepatic transaminases and liver function. Thirty five liver biopsies were performed in children with active virus replication (HBeAg or hepatitis B virus DNA positive) who

were being considered for antiviral treatment as part of a clinical trial and were scored using the Ishak method. Two thirds (62%) of the children had mild hepatitis, 60% had mild fibrosis, and 18% had moderate to severe fibrosis. There was a weak correlation between histological evidence of hepatitis and hepatic transaminase activity, implying that biochemical monitoring of hepatic disease activity may be ineffective.

CONCLUSIONS: These asymptomatic hepatitis B virus carrier children remain infectious in the medium to long term with notable liver pathology. They should receive antiviral treatment to reduce infectivity and to prevent further progression of liver disease. Hepatic transaminases alone are not a reliable marker of liver pathology, and liver histology is essential before consideration for antiviral treatment.

Hepatitis C Virus Infection among Injection Drug Users: Survival Analysis of Time to Seroconversion

Epidemiology 2004 Sep; 15(5):543-549.

Hagan H, Thiede H, Des Jarlais DC.

BACKGROUND: Time to hepatitis C virus (HCV) seroconversion in initially seronegative injection drug users has not been directly measured, and public health planning would benefit from specifying the window of opportunity for prevention of infection, and factors that affect timing of infection.

METHODS: Four hundred eighty-four HCV antibody-negative injection drug users in Seattle, Washington were followed a median of 2.1 years to observe seroconversion. We examined time to HCV seroconversion in relation to subject characteristics using the Kaplan-Meier method and Cox proportional hazards regression. A weighted-average time to HCV seroconversion was calculated among new injectors (injecting ≤ 2 years) using seroprevalence and seroincidence data.

RESULTS: There were 134 HCV seroconversions (11.6 per 100 person-years at risk; the 25th percentile of time to

seroconversion was 26.2 months). Injection with a syringe used by another injector (adjusted hazards ratio = 1.8; 95% confidence interval = 1.3-3.0) and sharing a cooker or cotton (1.8; 1.0-3.1) were associated with time to HCV seroconversion. Using the estimate of the mean time to seroconversion from first injection in new injectors who were HCV antibody-negative at enrollment (5.4 years), and the midpoint between first injection and study enrollment in new injectors who were HCV antibody-positive at enrollment (0.6 years), the weighted-average time to seroconversion after beginning to inject was estimated to be 3.4 years.

CONCLUSION: The period of susceptibility to HCV infection in the majority of drug injectors appears to be long enough to justify the allocation of substantial resources toward interventions to reduce injection-related risk behavior in these individuals.

Herpes Simplex Hepatitis in Adults: A Search for Muco-Cutaneous Clues

J Clin Gastroenterol 2004 Sep; 38(8): 697-704.

Sharma S, Mosunjac M.

Herpes simplex hepatitis is a treatable cause of acute hepatitis with a high mortality (41% to 79%). We present 4 adult patients who died of herpes simplex hepatitis and review another 70 patients (including pregnant women) from the literature to illustrate that herpes simplex hepatitis was only considered in the differential diagnosis in 26% to 33% of patients even though muco-cutaneous involvement was

present in at least 70% of these patients. The presence of muco-cutaneous lesions in a patient with clinical symptoms and biochemical findings of acute hepatitis should raise the suspicion of herpes simplex hepatitis. Prompt treatment with acyclovir can be initiated within hours of admission in an attempt to prevent further hepatocellular damage in this potentially life-threatening infection.

Hepatitis C virus among self declared non-injecting sexual partners of injecting drug users

J Med Virol 2004 Sep; 74(1):62-6.

Roy KM, Goldberg DJ, Hutchinson S, Cameron SO, Wilson K, MacDonald L.

While much is known about hepatitis C virus (HCV) among injecting drug users (IDUs), there is scant information about the risk of HCV infection to non-injecting sexual partners of injecting drug users; it is possible that such individuals may have a greater risk of acquiring HCV than any other group barring injecting drug users. This study examines the prevalence of HCV among a population of non-injecting sexual partners of injecting drug users. Unlinked anonymous testing for anti-HCV of residual sera stored following the named HIV testing of specimens originally from persons who had indicated to their attending clinicians

that they were non-injecting sexual partners of injecting drug users. The prevalence of anti-HCV among the sexual partners was 4.1% (25/611) overall, 6.4% (13/202) among heterosexual male and 3.0% (12/397) among the heterosexual female partners. None of the homosexual/bisexual partners were HCV antibody positive (0/12). Although we cannot be sure how non-injecting partners of injecting drug users acquire their HCV infection, having a relationship with someone who injects drugs may place an individual at appreciable risk of being infected; such individuals should consider being tested for HCV. *J. Med.*

HBV and HCV prevalence and viraemia in HIV-positive and HIV-negative pregnant women in Abidjan, Cote d'Ivoire: The ANRS 1236 study

J Med Virol 2004 Sep; 74(1):34-40.

Rouet F, Chaix ML, Inwoley A, Msellati P, Viho I, Combe P, Leroy V, Dabis F, Rouzioux C.

A retrospective survey estimating the prevalence of hepatitis viruses B (HBV) and C (HCV) was conducted on samples taken in 1,002 African pregnant women (501 diagnosed as HIV-1 positive and 501 HIV-1 negative) participating in a clinical trial program conducted in Abidjan, Cote d'Ivoire (West Africa). Hepatitis B markers studied were HBs antigen (HBsAg), and if positive, HBe antigen/anti-HBe antibodies and HBV DNA. Two third generation (G3) HCV enzyme immunoassays (EIAs) were used for primary HCV screening. All anti-HCV antibody-positive sera were assessed further with supplementary assays (one another G3 EIA, RIBA 3.0, and HCV RNA). HCV genotypes were also determined. HBsAg was found in a similar proportion among HIV-positive (45/499, 9.0%, 95% confidence interval [95% CI], 6.6-11.9) and HIV-negative (40/498, 8.0%, 95% CI, 5.8-10.8) women ($P = 0.58$).

The diagnosis of chronic hepatitis B, based on HBV DNA positive results, was more frequent in HIV-positive women (26.7%), compared to HIV-negative women (9.4%) ($P = 0.06$). In the case of hepatitis C infection, after supplementary testing allowing the elimination of frequent false-positive screening results, a prevalence rate of about 1% was found, both in HIV-positive (6/501, 1.2%, 95% CI, 0.44-2.59) and HIV-negative (4/501, 0.8%, 95% CI, 0.22-2.03) women ($P = 0.53$). Of the 10 samples confirmed positive and assessed for HCV RNA, eight (80%) were viraemic and belonged to HCV genotypes 1 or 2. The relative high frequency of HIV/HBV coinfection in Cote d'Ivoire emphasises the need for monitoring the risk of hepatotoxicity by antiretroviral therapy in such patients. We propose an accurate and cost-efficient algorithm for HCV diagnosis in Africa.