

the cellular proliferation in either HBeAg(+) or HBeAg(-) patients, and markedly enhanced the IFN- γ production in HBeAg(+) patients.

Conclusion: The persistency of HBeAg could induce higher expression of PD-1 and CTLA-4 on the HBV-specific T cells, which may associate with the low ability of HBV-specific T-cell responses, high serum HBV DNA levels and high percentage of liver cirrhosis in HBeAg(+) CHB patients.

doi:10.1016/j.ijid.2008.05.1246

67.030

Clinical and Virological Features and Course of Acute Hepatitis B (AHB) in Italy

E. Spada^{1*}, M.E. Tosti¹, L. Romanò², C. Galli³, A. Mariano⁴, L. Germagnoli⁵, F. Dorigatti⁵, M. Marinelli⁵, A. Zanetti², A. Mele¹

¹ *Istituto Superiore di Sanità, Roma, Italy*

² *Istituto di Virologia, Università di Milano, Milano, Italy*

³ *Abbott Diagnostici, Roma, Italy*

⁴ *Istituto Nazionale di Malattie Infettive - Spallanzani, Roma, Italy*

⁵ *Diagnostica e Ricerca San Raffaele S.p.A., Milano, Italy*

Background/aims: In order to define the clinical, serological and virological aspects, including viral genotypes and mutations, of acute hepatitis B virus infection (AHB) a prospective study has been carried out in Italy.

Methods: AHB cases referred to 17 hospitals were recruited over 1 year and followed-up for 6 months. Biochemical and virological assessments were done 7, 15, 30 days after disease onset, and then at 3-month interval.

Results: Overall, 111 patients were enrolled. All patients were IgM anti-HBc+, 108 were HBsAg+ and 70 of the 72 patients tested for HBV-DNA were positive. A preliminary analysis was performed on 99 of 111 cases: 21 were followed-up for > 6 months, 25 for 3–6 months, 53 for 6 months (95.2%). HBV-DNA negativization occurred after HBsAg negativization, but after a 6-month follow-up results on HBsAg and HBV-DNA were concordant. The frequency of HBV genotype in 49 patients was: genotype D, 59.2%; genotype A, 36.7%; genotype F, 4.1%. Core/pre-core mutants, detected in 21 of 34 patients examined (61.8%), were more frequent in genotype D infection.

Conclusion: The frequent detection of anti-HBe+ and anti-HBe/HBeAg+ patients in the early disease phase, as well as the long-lasting persistence of IgM anti-HBc, represents novel findings in the field of AHB. The correlation between HBsAg and HBV-DNA makes HBsAg a useful marker of virus clearance. Genotype distribution and core/pre-core mutations frequency confirm previous findings.

doi:10.1016/j.ijid.2008.05.1251

67.031

Incidence, Risk Factors and Control of Hepatitis A in Italy

M.E. Tosti*, E. Spada, A. Mele

Istituto Superiore di Sanità, Rome, Italy

Introduction: Improvements in hygiene and sanitation standards have determined a dramatic decrease in HAV circulation in Italy. HAV exposure is now less common during childhood, while a growing number of susceptible young adults has developed. Using data of the Italian surveillance system of acute hepatitis (SEIEVA), we evaluated the incidence of and risk factors for acute hepatitis A (AHA).

Methods: We performed a case-control study within a population-based surveillance for acute viral hepatitis. AHA incidence was estimated since 1991; the association with considered risk factors was analysed during 2001–2006, using cases of acute hepatitis B (AHB) as controls

Results: The incidence declined from 4/100,000 in 1991 to 1.4/100,000 in 2006, peaking during 1996–97 due to an outbreak in South Italy. The incidence was higher in persons aged 15–24 years. The lethality was 2.9/10,000. During the period 1991–2006 82 cases were notified among vaccinated subjects: 95% of these HAV cases received vaccine within 1 months from the onset. Contact with individuals with AHA (ORadj = 3.8; 95%CI = 2.7–5.5) travelling to endemic areas (ORadj = 3.1; 95%CI = 2.6–3.8) ingestion of raw shellfish (ORadj = 1.8; 95%CI = 1.6–2.1) and cohabitation with a day-care child (ORadj = 1.3; 95%CI = 1.01–1.7) were the most important risk factors. In 2003 intravenous drug use caused an outbreak, with high lethality in a central Italian town. In this analysis, male homosexuality was not associated with AHA, while a weak association was found by using acute hepatitis C cases as controls (ORadj = 1.44 CI, 95%CI = 1.06–1.95).

Discussion: HAV infections is nowadays more frequent in adults, in which the disease is more severe. Travel in endemic areas and contact with AHA cases are the most important risk factors, while shellfish consumption has become a less frequent way for acquiring AHA. Vaccination of individuals at increased risk of infection combined with surveillance of retail outlet of shellfish are efficient control measures.

doi:10.1016/j.ijid.2008.05.1252

67.032

Risk of Parenteral Transmitted Hepatitis Following Exposure to Invasive Procedures (IP): Results from the Hepatitis Surveillance System in Italy

E. Spada*, M.E. Tosti, A. Mele

Istituto Superiore di Sanità, Rome, Italy

Background and aims: Invasive procedures (IP) are frequently reported risk factor for both acute hepatitis B (AHB) and C (AHC). We estimated the association between parenteral viral hepatitis and specific types of IP.

Methods: Data from the surveillance for acute viral hepatitis during 2000–2006 were used. The association of AHB and AHC with different IP was estimated comparing 3,506

AHB and 769 AHC cases with 4,874 hepatitis A cases, used as controls.

Results: For AHC, the strongest associations were with urological [Adjusted Odd Ratio (OR_{adj}), 17.5; Confidence Interval (CI), 1.6–187.1], neurological (OR_{adj}, 16.2, CI, 2.7–97.7), and minor surgery (OR_{adj}, 10.9; CI, 3.6–32.6). A lower but significant risk (from 3.7 to 4.7 times higher respect to no intervention) was found for oral surgery, Gynaecological, cardiovascular, abdominal interventions and for biopsy or endoscopy. Only minor (OR_{adj}, 3.0; CI, 1.3–7.1), oral (OR_{adj}, 2.6; CI, 1.5–4.6) and dermatological surgery (OR_{adj}, 2.9; CI, 1.1–7.5) were associated with AHB instead, instead.

Conclusion: Although AHB and AHC incidences are declining, IP still represent important risk factors. The differences in risk estimation between AHB and AHC is likely due to the higher HCV prevalence in the general population; admitting a person-to-person transmission by breaks in universal precautions, the larger pool of subjects infected with HCV than HBV makes more likely the exposure to HCV. The increasing proportion of HBV-immunized young adults and vaccination of high risk groups, further explain these differences. The high risk found for minor surgery, might suggest that healthcare providers underrate the risk connected with this procedure. Since a lot of people is exposed to IP and an effective HCV vaccine is not yet available, these findings underscore the importance of implementing non-immunologic preventive measures to control iatrogenic HBV and HCV transmission.

doi:10.1016/j.ijid.2008.05.1253

67.033

Evaluation of Early Predictors of Successful Therapy in HCV Infected Patients from Romania

C. Sultana¹, L. Manolescu², S. Ruta^{2,*}

¹ 'St. S. Nicolau' Institute of Virology, Bucharest, Romania

² 'Carol Davila' University of medicine and Pharmacy, Bucharest, Romania

Background: The ability to predict a favorable outcome of treatment is a major issue in the management of hepatitis C. Based on results of the viral kinetics studies, which indicated a two-phase reduction in HCV RNA levels after IFN treatment initiation, with the first one appearing to be predictive of response, we monitored the utility of the rapid virological response (RVR), defined as undetectable HCV RNA at week 4.

Methods: Samples from 38 patients (all females, mean age 48,4 ± 5 ys) with chronic hepatitis C, but without signs of cirrhosis, were tested for HCV viral load by quantitative Rt-PCR (COBAS Amplicor HCV Monitor, Roche Diagnostics) before initiation of treatment with PEG-IFN-alpha-2a (180 mcg/week) in combination with ribavirin (800 mg/day) for 48 weeks, at week 4 and at 6 month after the completion of therapy. Genotyping was performed using a commercial Line Probe Assay (Innogenetics).

Results: All patients had high baseline viral load (>700 000 IU/ml) and were infected with genotype 1b. Despite these negative predictors for treatment success, 21 patients (75%) achieved a sustained virologic response

(SVR)- undetectable viral load at 6 month after discontinuation of treatment. At week 4 after treatment initiation, 18 patients (64%) had undetectable viral load HCV. Out of these rapid responders 17 (95%) achieved a SVR and only relapsed at 6 month. By contrast, only 4 patients (36.4%) with HCV RNA ≥ 600 IU/ml at week-4 achieved an SVR.

Conclusion: The RVR may be a useful indicator for the duration and long term outcome of treatment among patients with chronic HCV infection, even in countries like Romania, where genotype 1b is the most common. Lack of RVR can justify discontinuation of therapy, with important reduction in associated costs and adverse effects, while a good response at week 4 indicates a low risk of relapses, even in the presence of a less-sensitive genotype.

doi:10.1016/j.ijid.2008.05.1254

67.034

Genotyping and Viral Load Measurements in Patients with Major Thalassemia and Positive Hepatitis C Virus Antibody in Mazandaran Province, Iran

F. Babamahmoodi^{1,*}, M. Kosarian¹, A.R. Babamahmoodi², M. Adnani¹

¹ Mazandaran University of Medical Science, Sari, Iran (Islamic Republic of)

² Narges Clinic Shariati Street, Tehran, Iran (Islamic Republic of)

Introduction: Hepatitis C virus (HCV) infection has reached epidemic proportions. Worldwide, more than one million new cases of infection are reported annually, and HCV is believed to be more prevalent than hepatitis B virus infection and 80% of the affected will be chronically infected and are at risk of serious chronic sequel including cirrhosis and hepatocellular carcinoma. Genotyping of HCV is becoming increasingly important for clinical management of chronic infection and as an epidemiological marker. At least six major genotypes of HCV, each comprising multiple subtypes, have been identified. Substantial regional differences appear to exist in the distribution of genotypes. Although HCV genotypes 1, 2, and 3 appear to have a worldwide distribution, their relative prevalence varies from one geographic area to another. subtypes 1a and 1b in the United States and Europe, In Japan, subtype 1b, in northern Italy Subtype 2c, Genotype 4 in North Africa and the Middle East, genotypes 5 and 6 in South Africa and Hong Kong are the most common genotypes. Genotypes 7, 8, and 9 have been identified only in Vietnamese patients, and genotypes 10 and 11 were identified in patients from Indonesia. We conducted this study to detect the most common genotype in major thalassaemics patients.

Methods and materials: We enrolled 52 patients of HCV positive in a cross-sectional study. we used ELISA, Restrictive-Fragment length polymorphism analysis and PCR methods.

Result: 51.9% were men and 48.1% women. The mean age (±SD) was 22 ± 4.48. Genotype 1a was the most common type (53%) after that 3a (42%) and 1b (5%). average of viral load in patients with 1a genotype was 363501.1 and in patients with 3a was 346621.3 that shows no significant difference.