Hepatitis Monthly 2005; 5(3): 89-101

Hepatitis newswire/ Iran

High prevalence of alpha 1 antitrypsin phenotypes in viral hepatitis B infected patients in Iran.

Hepatol Res. 2005 Oct 28.

Hashemi M, Alavian SM, Ghavami S, de Serres FJ, Salehi M, Doroudi T, Fard AH, Mehrabifar H, Milani B, Shahri SJ

Objective: Hepatitis B virus (HBV) infection is a major global public health problem. Approximately 2 billion people are infected worldwide and more than 350 million of these individuals are chronic carriers of HBV. Approximately 15-40% of infected patients will develop cirrhosis, liver failure, or hepatocellular carcinoma (HCC). Alpha 1 antitrypsin (AAT) deficiency is one of many factors that may be involved in abnormalities such as liver and lung disease, inflammatory joint diseases, and inflammatory eye diseases. In the present study, the role played by AAT in HBV infected individuals is analyzed.
Methods: AAT phenotyping and trypsin inhibitory capacity (TIC) experiments were performed on 281 HBV infected patients who were referred to Tehran and Zahedan Hepatitis Center for a period of 3 years from June 2001 to September 2003. The same tests were performed on 257 individuals who did not suffer from any systemic diseases (control group). The case group was subdivided into three groups: carrier (36.7%), chronic (50.5%), and cirrhotic (12.8%).
Results: The results showed that AAT phenotypes, MS, MZ, M(1)Z, and M(1)S, were significantly higher in the HBV group ($p<0.01$). In addition, there was a significant difference in AAT phenotypes (MS, MZ, and M(1)Z) among inactive carriers and individuals in the chronic and cirrhotic group ($p<0.001$).
Conclusions: There is a high prevalence of moderate AAT (MS, M(1)S, and MV) and severely deficient (MZ and M(1)Z) phenotypes in Iranian HBV individuals. In addition, AAT deficiency might be a risk factor for infected HBV individuals progressing from the carrier stage to chronic and cirrhotic stages.

The relationship between lichen planus and hepatitis C in dermatology outpatients in Kerman, Iran.

Int J Dermatol. 2005 Sep;44(9):746-8.

Rahnama Z, Esfandiarpour I, Farajzadeh S

Background: Lichen planus (LP) is classified as a papulosquamous disease. It has been associated with liver disease, particularly hepatitis C virus (HCV) infection, in several studies. Most of these reports, especially the larger series, were conducted in Europe and Japan.
Objective: We conducted a case-control study in Kerman, Iran to explore the association between LP and HCV. METHODS: The study included 66 patients with LP (as cases; mean age = 39.7 +/- 15.8 years; 31 female, 35 male) and 140 volunteer blood donors (as controls; mean age = 29.5 +/- 8.4 years; 43 females, 97 males). An enzyme-linked immunosorbent assay (ELISA) was used to determine the presence of anti-HCV antibodies in all subjects in both groups. To confirm positive diagnoses, a second generation recombinant immunoblot assay (RIBA II) test was performed.
Results: Lichen planus lesions were most frequently located on the trunk and extremities, and the most common clinical type was generalized LP (48.5%). One of the patients with LP (1.5%) and three of the controls (2.1%) were HCV-Ab positive. No significant difference was observed in HCV-Ab positive between the two groups (OR = 0.7; 95% CI = 0.1-6.9).
Conclusion: The findings indicate that an investigation for HCV infection should not necessarily be performed in all patients with LP. It is recommended that further studies should focus on larger groups in other regions of Iran to determine whether testing for HCV infection is necessary in patients with LP.
World J Gastroenterol. 2005 Aug 21;11(31):4857-60.

Intra-familial prevalence of hepatitis B virologic markers in HBsAg positive family members in Nahavand, Iran.

World J Gastroenterol. 2005 Aug 21;11(31):4857-60.

Alizadeh AH, Ranjbar M, Ansari S, Alavian SM, Shalmani HM, Hekmat L, Zali MR

Aim: To determine the prevalence of hepatitis B in Nahavand and evaluate the HBsAg positive prevalence in families with a member who was confirmed to have HBV infection.
Methods: This study was performed in two phases. In the first phase, 1 824 subjects in Nahavand city were selected. The interviewers visited the houses of chosen families to fill the questionnaire and take the blood samples. All subjects signed an informed consent before interviews and blood sampling. The samples were evaluated for HBV virologic markers. In the second phase, 115 HBsAg-positive cases were enrolled and evaluated for HBV virologic markers.
Results: The prevalence of positive HBsAg in Nahavand was 2.3%. The most frequent relatives of index cases were sons and daughters (32.2% and 23.5% respectively). Twelve (11%) of all family members were HBsAg positive. Fifty (56.2%) were isolated HBsAb positive and only one person (2.5%) was isolated HBcAb positive. The higher rates of HBsAg marker were detected in the brothers (1-25%) and fathers (1-12.5%). The infection rate in husbands and wives of index cases was 10%. Only two (16.7%) of all HBsAg-positive participants reported previous HBV vaccination.
Conclusion: The prevalence of intra-familial HBV infection is lower in Nahavand of Iran compared to other studies. More attention should be paid to HBV vaccination and risk-lowering activities.

Concerns regarding dentists' compliance in hepatitis B vaccination and infection control.

Am J Infect Control. 2005 Sep;33(7):428-9.

Alavian SM, Akbari H, Ahmadzad-Asl M, Kazem M, Davoudi A, Tavangar H

Abstract is not available

T1764G1766 core promoter double mutants are restricted to Hepatitis B virus strains with an A1757 and are common in genotype D.

J Gen Virol. 2005 Sep;86(Pt 9):2451-8.

Sendi H, Mehrab-Mohseni M, Zali MR, Norder H, Magnius LO.

To investigate the role of pre-core and basal core promoter (BCP) mutants in hepatitis B e antigen (HBeAg)-negative chronic hepatitis B (e-CHB) in Iran, Hepatitis B virus strains from 30 patients and 42 anti-HBe-positive asymptomatic carriers (ASCs)

were characterized. G1896A pre-core stop mutants, detected in 77 % of e-CHB patients and 85 % of ASCs, showed no association with virus load or aminotransferase levels. Twenty per cent of e-CHB patients and 31 % of ASCs harboured T1762A1764 mutants. When this double mutation was associated with G1757, it was linked to a higher virus load in patients than when it was associated with A1757 (10(5.2+/-1.8) vs 10(3.2+/-0.8) copies ml(-1); P=0.004). Interestingly, the most common BCP mutations were T1764 and G1766, which were present in 33 % of e-CHB patients and 29 % of ASCs. These were associated with higher virus load and aminotransferase levels compared with patients lacking core promoter mutations, although this was not significant. The T1764G1766 double mutation was only present in strains with A1757 (P<0.001), which is more frequent in strains of genotype D than in those belonging to other genotypes. On the other hand, the T1762A1764 double mutation was found more frequently in association with G1757 than with A1757. The T1762A1764 double mutation forms a binding site for hepatocyte nuclear factor 1 (HNF1), which is constrained by A1757. However, the T1764G1766 double mutant may form a binding site for HNF3. Thus, position 1757 affects the emergence of promoter double mutants and would predict a relative genotypic restriction of both the T1762A1764 and the T1764G1766 double mutants.

Hepatitis newswire/ Middle East & Central Asia

Prevalence and risk factors for HEV infection in pregnant women.

Med Sci Monit. 2005 Dec 19;12(1):CR36-39.

Oncu S, Oncu S, Okyay P, Ertug S, Sakarya S

Background: Hepatitis E is an infectious viral disease with clinical and morphological features of acute hepatitis, clinically similar to other forms of acute viral hepatitis except in pregnant women, in whom the illness is particularly severe and has a high mortality rate. The present study was conducted in western Turkey to investigate the prevalence and risk factors for HEV infection in pregnant women.
Material/Methods: The data for the study were acquired from health centers in urban and rural areas of Aydin province, Turkey. The study design was cross-sectional. Multistage sampling was used to select the study group. Samples were tested for anti-HEV IgG by commercial ELISA test.
Results: A total of 386 pregnant women were included in the study. Antibodies against HEV were detected in 27 of the 386 pregnant women (7.0%). The prevalence of HEV seropositivity was significantly lower (2.5%) in women with a higher education level when compared to women with a lower education level (9.7%) (p=0.023). No significant differences were identified between seropositive and seronegative women in terms of age, source of water supply and place of residence.
Conclusions: According to our results, education seems to be the only factor affecting the prevalence of HEV infection in pregnant women. The prevalence rate we found was similar to the results obtained in previous community-based studies conducted in western Turkey.

Person-to-person transmission of Hepatitis A Virus in an urban area of intermediate endemicity: Implications for vaccination strategies.

Am J Epidemiol. 2005 Dec 7

Victor JC, Surdina TY, Suleimenova SZ, Favorov MO, Bell BP, Monto AS

Developing countries with an increasing hepatitis A disease burden may target vaccination to specific groups, such as young children, as an initial control strategy. To better understand transmission of hepatitis A virus in such countries, the authors prospectively studied household and day-care/school contacts of cases in Almaty, Kazakhstan. Overall, by the time of identification of symptomatic index cases, half of transmission had already occurred, having been detected retrospectively. The odds of household contacts' becoming infected were 35.4 times those for day-care/school contacts (95% confidence interval (CI): 17.5, 71.7). Within households, younger age of either index cases or susceptible contacts elevated the odds of secondary infection among susceptible contacts: The presence of a case under 6 years of age raised the odds 4.7 times (95% CI: 1.2, 18.7); and compared with contacts aged 14 years or older, the odds of infection were increased to 7.7 (95% CI: 1.5, 40.3) and 7.0 (95% CI: 1.4, 34.3) among contacts aged 0-6 years and 7-13 years, respectively. Young children are appropriate targets for sustainable hepatitis A vaccination programs in areas undergoing hepatitis A epidemiologic transition. If vaccine is determined to be highly effective postexposure and if it is feasible, vaccinating household contacts could be a useful additional control strategy.

The increasing prominence of household transmission of hepatitis A in an area undergoing a shift in endemicity.

Epidemiol Infect. 2005 Sep 30;:1-6.

Victor JC, Surdina TY, Suleimeova SZ, Favorov MO, Bell BP, Monto AS

in the rapidly developing city of almaty, kazakhstan, rates of hepatitis a have fallen, but no data on prevalence of antibody to hepatitis a virus (anti-hav) exist with which to interpret incidence data. in the autumn of 2001, we determined the anti-hav prevalence among household and school contacts of hepatitis a cases. for contacts aged 0-4 years, 5-9 years, 10-14 years, 15-19 years, or 20-30 years, immune prevalences were 9, 12, 33, 33 and 77% respectively, among immediate-family household contacts and 15, 28, 49, 52 and 77% respectively, among community contacts. child community contacts were more likely to be immune than their immediate-family household counterparts (odds ratio 2.0, 95% confidence interval 1.3-3.2). almaty is experiencing an epidemiological shift in hepatitis a incidence. feasible and effective prevention strategies using hepatitis a vaccine should be explored

Prevalences of HIV, hepatitis B and hepatitis C in blood donors in the Republic of Djibouti

Med Trop (Mars). 2005;65(1):39-42.

Dray X, Dray-Spira R, Bronstein JA, Mattera D

Screening for hepatitis B (HBV) surface antigen (Ag HBs) and for antibodies to hepatitis C (HCV) and human: immunodeficiency virus (HIV) was carried out in 9006 volunteer blood donors at the National Blood Bank in the Republic of Djibouti from 1998 to 2000. Results demonstrated the presence of Ag HBs in 934 patients (10.4%), antibodies to HCV in 21 patients (0.3%), and antibodies to HIV in 175 patients (1.9%). In comparison with

neighboring countries the prevalence of HBV, HCV, and HIV infection in Djibouti was low. These findings should be used to guide preventive action against these viral infections in the Republic of Djibouti. Estimations of HIV infection (11.7%) based on modeling by the World Health Organization should be reviewed.

Response of hepatitis C genotype-4 naive patients to 24 weeks of Peg-interferon-alpha2b/ribavirin or induction-dose interferon-alpha2b/ribavirin/amantadine: a non-randomized controlled study.

Am J Gastroenterol. 2005 Nov;100(11):2447-52.
El-Zayadi AR, Attia M, Barakat EM, Badran HM, Hamdy H, El-Tawil A, El-Nakeeb A, Selim O, Saied A

Background and Aim: Currently, pegylated interferon is the most effective therapy for hepatitis C but its cost is out of reach of most patients in the developing countries. The aim of this study was to assess the response rate of genotype-4 patients to 24 wks of peg-interferon-alpha2b (Peg-IFN-alpha2b) and ribavirin (RBV) or interferon-alpha2b (IFN-alpha2b) with RBV and amantadine (AMD) as an alternative option.
Methods: In a controlled study, 180 biopsy-proven naive chronic hepatitis C patients were allocated into three groups based on their financial affordability to any of the study regimens. Group I (control) comprised 40 patients who received Peg-IFN-alpha2b in a flat dose of 100 mug/wk (the dose available in Egypt) plus RBV 1,000-1,200 mg per day based on body weight for 48 wks. Group II comprised 70 patients who received the same regimen for 24 wks. Group III comprised 70 patients who received induction-dose triple therapy (IDTT) in the form of IFN-alpha2b 3 MU once daily for the first 4 wks then reduced to TIW for 20 wks plus RBV 1,000-1,200 mg per day based on body weight and AMD 100 mg twice daily for 24 wks. Six patients from group I, eight patients from group II, and four from group III discontinued the study either due to financial limitations and/or intolerable adverse effects of the drugs.
Results: Intention-to-treat analysis revealed that sustained virological response (SVR) achieved in 22 (55.0%), 34 (48.6%), and 20 (28.6%) in groups I, II, and III, respectively. Adherence-to-treatment analysis (80/80/80) revealed that SVR achieved in 22 (64.7%), 34 (54.8%), and 20 (30.3%) in groups I, II, and III, respectively. In absence of eradication of hepatitis-C-virus-RNA at week 12, there was virtually no chance of achieving SVR. These data collectively may indicate that genotype 4 is "not difficult to treat" as previously reported.
Conclusion: Response of genotype-4 patients to 24 wks of Peg-IFN-alpha2b/RBV did not significantly differ from 48 wks, but was significantly higher than IDTT. Although SVR achieved by IDTT is less than Peg-IFN-alpha, yet it might provide a second option when the latter is not affordable. Early virological response should be used as a predictor to SVR to avoid unnecessary expenses in nonresponders patients.

The seroepidemiology of Hepatitis A virus in Amman, Jordan.

New Microbiol. 2004 Jul;27(3):215-20.
Battikhi MN, Battikhi EG.

Hepatitis A virus (HAV) has emerged as an important public health problem in many countries of the Middle East region and Jordan is no exception. From January 1991 to December 2001, a total of 1015 patients were diagnosed at Al-Battikhi Medical Laboratories. Samples were collected at seventeen private laboratories distributed throughout areas of the Governorate of Amman (capital of Jordan). A significant variation (P=0.03) was obtained between number of HAV cases and year. Seasonal variation in HAV cases was seen throughout the study period with maximal rates in the spring and summer months (P<0.001). The highest incidence rate (9.6/100,000 population) was detected in the year 1993 and the lowest incidence rate (1.1/100,000 population) was found in the year 2001. There was a significant difference (P<0.0001) between number of HAV cases and age group. The highest number of cases 166 (16.4%) was reported for age group 5-14 years and the lowest number of cases 18 (0.02%). Male to female ratio was 1.25: 1. There was no significant sex variation (P=0.28). A significant variation (P=0.006) was observed between number of HAV cases and districts. The present results suggested a link between the age groups, year, month and occurrence of HAV infection. Male to female ratio indicates no significant sex variation.

Efficacy and tolerability of peginterferon alpha-2a with or without ribavirin in thalassaemia major patients with chronic hepatitis C virus infection.

Br J Haematol. 2005 Aug;130(4):644-6.
Inati A, Taher A, Ghorra S, Koussa S, Taha M, Aoun E, Sharara AI

Thalassaemia patients with genotype 1 or 4 chronic hepatitis C virus (HCV) infection were randomised to receive peginterferon alpha-2a 180 mg/week ribavirin for 48 weeks. Primary efficacy variable was sustained viral response (SVR) at 72 weeks. Thirty-two patients were evaluated; 20 enrolled. Baseline characteristics were comparable. SVR occurred in four of 12 and five of eight patients in the monotherapy and combination groups (30% and 62.5%; P=0.19), respectively. Undetectable RNA at 12 weeks and age <18 years were associated with improved SVR (P<0.05). Transfusion requirements rose by 34% in the combination arm (P=0.08). Peginterferon/ribavirin was effective in thalassaemics with HCV and moderate iron overload.

Frequency and significance of antibodies against hepatitis B core (anti-HBc) antigen as the only serological marker for hepatitis B infection in Lebanese blood donors.

Epidemiol Infect. 2005 Aug;133(4):695-9.
Ramia S, Ramlawi F, Kanaan M, Klayme S, Naman R

During a 2-year period, blood samples from 2505 Lebanese blood donors were chosen at random, at various periods of time at one blood donation centre (Hotel Dieu de France, Beirut, Lebanon) and were screened for markers of HBV infection (HBsAg, anti-HBc and anti-HBs). The study showed HBsAg positivity of 0.6% and an overall exposure rate to HBV of 10.0%. Out of the 2505 blood donors screened, 56 (22%) were found to be 'anti-HBc alone' positive which is almost four times the HBsAg positivity. The 56 'anti-HBc alone' samples were retested by another ELISA kit commercially available and 54 samples were 'anti-HBc alone' positive by both assays. The 54 samples had no serological markers as evidence of infection with human immunodeficiency virus (HIV) or hepatitis C virus (HCV). Only seven (13%) out of the 54 samples were HBV DNA positive by PCR and all were HBV genotype D. All seven HBV DNA-positive samples had HBV DNA levels below 400 copies/ml. Although any circulating HBV DNA among our 'anti-HBc alone' blood donors was below the detection limit of our Amplicor Monitor assay, some of these samples had circulating virus. A national study, where a larger number of blood donors from different blood donation centres across the country will perhaps determine whether screening for

anti-HBc in addition to HBsAg detection is needed in Lebanese blood donors.

Hepatitis A in Lebanon: a changing epidemiological pattern.

Am J Trop Med Hyg. 2005 Aug;73(2):453-6.
Sacy RG, Haddad M, Baasiri G, Khoriati A, Gerbaka BJ, Abu-Elyazeed R

In this multicenter study in Lebanon, hepatitis A virus (HAV) seroprevalence rates were surveyed by age, gender, and socioeconomic factors. Blood samples collected from 606 subjects aged 1 to 30 years were analyzed for anti-HAV IgG. Age was the most important factor influencing HAV seroprevalence. HAV seroprevalence rates in the current study were about 78% in the > or = 21 years age group, 28% in the 6-10 years age group, and 11% in the 1-5 years age group as compared with 97.7% in adults, 85% in children aged 6-12 years, and 40% in children aged 1 to 5 years in previous studies, demonstrating a shift in HAV seroprevalence from the younger to the higher age groups. In light of the severity of the disease in adults and availability of safe and effective vaccines against HAV infection, introduction of HAV vaccination into the national immunization schedule of Lebanon should be considered.

Profile of viral hepatitis patients in Dakhliya, Oman.

Saudi Med J. 2005 May;26(5):819-23.
Bhat SK, Sachdeva VN, Saleem HI

Objective: With the availability of routine serological diagnosis of all the major forms of viral hepatitis, namely, A, B, C, D, E consequent to initiation of National Viral Hepatitis Surveillance, the twin objective of the study was to assess the trend of various types of viral hepatitis and analyze the profile of the patients in the region of Al Dakhliya.
Methods: A one year prospective cohort, of all the suspects of viral hepatitis enrolled from 01/08/2003 to 31/07/2004 involving all health facilities (a total of 18 health institutions) of Dakhliya region, Sultanate of Oman, was subjected to centralized laboratory confirmation. Notification of viral hepatitis confirmed cases was the tool for analysis. A subset of unconfirmed viral hepatitis cases that were admitted and discharged from the referral hospital were retrieved and analyzed utilizing their computerized hospital records.
Results: There was a shift of incidence of hepatitis B towards higher age groups (32.4 +/- 16.2 years) with only one case under 15 years of age (p<0.0001). While as under 15 year age group was less prone to hepatitis C (p<0.05), it had a high incidence for hepatitis A with mean age 11.4 +/- 13.9 years (p<0.01). Hepatitis E incidence had a higher mean age of 44.6 +/- 24.1 years with insignificant linear trend (p>0.05).
Conclusion: Progress in decline of viral hepatitis B has occurred at a rapid pace during the last decade following successful intervention of immunization against hepatitis with an almost 100% coverage. Affliction of younger age groups to hepatitis A is indicative of continued transmission of the disease in the community demanding improvements in preventive practices to curb any impending outbreak.

Epidemiology and clinical pattern of hepatitis delta virus infection in Pakistan.

J Gastroenterol Hepatol. 2005 Oct;20(10):1503-7.
Mumtaz K, Hamid SS, Adil S, Afaq A, Islam M, Abid S, Shah HA, Jafri W.

Background and Aims: The global epidemiology of hepatitis delta virus (HDV) infection is changing. This study was performed to determine the epidemiology and clinical impact of hepatitis delta in Pakistan.
Methods: Countrywide data was collected from 1994 to 2001. A total of 8721 patients were tested for hepatitis delta antibody. A subset of 97 hepatitis delta antibody reactive inpatients with chronic liver disease were compared to 97 patients admitted with liver disease due to hepatitis B alone.
Results: Of the 8721 patients tested, 1444 (16.6%) were reactive for hepatitis delta antibody. Most were males (87.4%, P < 0.001) and younger (mean age 31 years, P < 0.001) compared to HDV non-reactive patients. Prevalence of delta infection was highest in the rural (range 25-60%) compared to the urban population (range 6.5-11%). Analysis of the inpatient data showed that delta infected patients had significantly less severe clinical liver disease and a trend towards lesser development of hepatocellular carcinoma compared to delta negative patients.
Conclusions: (i) HDV infection is present in 16.6% of hepatitis B infected patients in Pakistan, most commonly in younger males living in rural areas; and (ii) delta virus infected patients have less severe clinical liver disease compared to delta negative, hepatitis B patients.

Knowledge of students regarding hepatitis and HIV/AIDS of a private medical university in Karachi.

J Pak Med Assoc. 2005 Jul;55(7):285-8.
Anjum Q, Siddiqui H, Ahmed Y, Rizvi SR, Usman Y

Objective: To determine and assess the level of awareness among students of a private medical college regarding HIV/AIDS, Hepatitis B and C.
Methods: A survey was conducted to assess the awareness of medical students on HIV/AIDS, hepatitis B and C. They were asked to fulfill a pre-tested structured questionnaire. The variables accessed were their knowledge of disease regarding etiology, mode of transmission, and prevention.
Results: A total of 267 students participated, with 117 (43.8%) students from pre-clinical years and 150 (56.2%) from the clinical years. The male female ratio was 1:2, mean age of respondents was 21 +/- 1.5 years. Majority of the students (98%) agreed that an infected person is a major source of transmitting these infections. Almost all (95%) students knew that blood transfusion was an important source of transmitting these infections. Wearing gloves (87%) and safe disposal of sharps waste (98%) were known by the students to be the ways to protect against these infections. A significant difference was noted on comparing the knowledge between preclinical and clinical students regarding medical / surgical procedures causing these infections (p<0.001) and also regarding the ways to protect against these diseases (p=0.001).
Conclusion: There is a lack of awareness among the medical students entering into the profession. It is the need of the hour to emphasize on practicing universal precautions. In addition, some preventive measures should be taken by the management of the universities and medical students to avoid the occurrence of these problems.

The impact of nurse understaffing on the transmission of hepatitis C virus in a hospital-based hemodialysis unit.

Med Princ Pract. 2004 May-Jun;13(3):129-35.
Saxena AK, Panhotra BR

Objective: To determine the impact of nurse understaffing on the transmission of hepatitis C virus (HCV) infection in a large hospital-based hemodialysis (HD) unit with a high HCV prevalence.

Subjects and Methods: The records of 198 patients (107 males and 91 females) with end-stage renal disease enrolled on long-term HD at King Fahad Hospital and Tertiary Care Center, Hofuf, Saudi Arabia, from August 1995 to August 2000, were retrospectively reviewed. The patients were assigned to HD groups of varying patient-to-nurse (P/N) ratios: group I, 2:1; group II, 3:1, and group III, 4:1. HCV prevalence, seroconversion rates, history of blood transfusion and dialysis age (time span since the initiation of the HD treatment) were recorded and compared.
Results: The overall HCV prevalence and seroconversion rate per year were 43.4 and 8.6%, respectively. Group I had the lowest HCV prevalence and annual seroconversion rate (26.8%; 5.3%), followed by group II (43.6%; 8.7%); group III had the highest HCV prevalence and seroconversion rate (71.8%; 14.4%). Anti-HCV positivity was associated with a higher dialysis age.
Conclusion: The finding that the patients in the groups with the relatively higher P/N ratio had the significantly higher HCV prevalence and seroconversion rates per year indicates that understaffing is likely to play a major role in the transmission of HCV in HD units, and we suggest that improved staffing may be helpful in reducing the HCV transmission in such dialysis units. Copyright 2004 S. Karger AG, Basel

Effect of chronic viral hepatitis on graft survival in Saudi renal transplant patients.

Nephron Clin Pract. 2005 Oct 20;102(2):c72-c80.
Mitwalli AH, Alam A, Al-Wakeel J, Al Suwaida K, Tarif N, A Schaar T, Al Adbha B, Hammad D.

Background: In Saudi Arabia the prevalence of hepatitis C among hemodialysis patients is very high ranging from 60 to 80%. A large number of these dialysis patients go for renal transplant, resulting into a higher prevalence of hepatitis C virus (HCV) infection in renal transplant patients. Yet no current systematic report is available on the influence of hepatitis C status on patient and graft survival. The present study was therefore undertaken to address this objective.
Methods: Retrospective analysis of data of 448 renal transplantation subjects was undertaken. The mean follow-up period was 5.85 +/- 2.7 (median 5.3) years. The factors associated with renal graft survival were reviewed and these include: age, sex, and type of donor, immunosuppressive medication, episodes of infection, blood pressure, serum creatinine, and status of hepatitis. The primary end-points were renal graft function and patient survival. Logistic regression, COX regression analysis, and Kaplan-Meier survival estimates were used to evaluate the influence of hepatitis C on the above parameters.
Results: Among 448 recipients of first kidney transplant patients, 286 (63.8%) were positive for HCV infection. In the HCV-positive group, 204 (71.32%) were males. Kaplan-Meier survival analysis showed a significantly better graft survival for HCV-negative patients than HCV-positive patients ($p < 0.001$; log-rank test). Logistic regression analysis and COX regression analysis have shown different grades of graft dysfunction were present in HCV-positive patients after adjustment for covariates: age, sex, blood pressure, type of donor, and immunosuppressive medication; the presence of HCV was a major predictor of bad outcome and significantly influenced graft survival (odds ratio = 4.37; 95% Cl = 1.81-4.77). Significant deterioration of liver function was noted in HCV-positive patients at the last follow-up, taking ALT as a marker (ALT level 80.6 +/- 5.8 U/l at the last follow-up versus 49.5 +/- 32 U/l at baseline p </= 0.0001). Sixteen patients had a chronic active course and 1 patient developed biopsy-proven liver cirrhosis and portal hypertension. A serious and significantly greater incidence of fatal chest infections was seen in HCV-positive patients. Although mortality was greater in HCV-positive versus HCV-negative patients (20 vs. 7), the difference did not attain statistical significance ($p = 0.23$) and none of the patients died as a result of hepatic failure.
Conclusion: The presence of HCV infection greatly influenced graft survival in renal transplant patients and a higher proportion of infected patients had renal and hepatic dysfunction. A significant increase in fatal chest infections was noted in HCV-positive patients. Overall mortality was higher in HCV-positive patients, but it was not statistically significant. All measures should be taken to prevent HCV transmission in the dialysis population. Renal transplant recipients with HCV infection need close monitoring for both graft and liver function. Copyright (c) 2006 S. Karger AG, Basel.

An unusual form of autoimmune hepatitis in young Somalian men.

Liver Int. 2005 Apr;25(2):325-30.
D'Souza R, Sinnott P, Glynn MJ, Sabin CA, Foster GR.

Background: Significant diversity in disease severity has been identified for autoimmune disorders among different ethnic groups. Current knowledge of both the natural history and management of autoimmune hepatitis (AIH) has been derived from European or Japanese patients, and there is limited information about the disease in patients from other ethnic groups.
Aims: To assess the clinical, histological and immunological features of AIH in patients from Somalia and to determine their response to therapy.
Methods: Retrospective review of a cohort of young Somalian men with atypical AIH compared with a control group of European patients.
Results: The six Somalian men were younger at presentation (median age 37 (range 24-59) years) than the seven female and three male European controls (55 (34-54) years, $P = 0.06$). The Somalians had slightly more severe disease at presentation-median modified Ishak stage of 2.5 compared with 2 in Europeans ($P = 0.61$) and four (66%) had features of cholestasis compared with only one (10%) European patient ($P = 0.04$). Therapy with prednisolone and azathioprine was completely effective for eight of 10 Europeans but only one of seven Somalians ($P = 0.04$). Analysis of human leucocyte antigen types revealed differences between the Somalian and European patients, although these differences did not reach statistical significance.
Conclusions: Somalian men with AIH present with cholestatic features and respond poorly to standard immunosuppressive regimes. Copyright Blackwell Munksgaard 2005

Blood-transmitted viral infections among haemophiliacs in Tunisia

Transfus Clin Biol. 2005 Oct;12(4):301-5. Epub 2005 Aug 11.
Langar H, Triki H, Gouider E, Bahri O, Djebbi A, Sadraoui A, Hafsia A, Hafsia R.

In this work, we proposed to evaluate prevalences of hepatitis B and C viruses and Parvovirus B19 among 70 Tunisian haemophiliacs treated with clotting factors imported from Europe and/or locally produced cryoprecipitate; among them 6 (8.6%) are known HIV positive patients. HBs antigen, anti-HBc antibodies and anti-Parvovirus B19 antibodies were detected in 7.1%, 52.9% and 91.8%, respectively. HCV prevalence, defined as positive ELISA with positive Immunoblot and/or PCR was 50.0%. Prevalences of these viral infections in haemophiliacs are higher than prevalences detected among general population and in the control group of the study. HCV infection is less frequent in

haemophiliacs born after 1985, the year of introduction of the inactivation procedures in the production of coagulation factors concentrates; it decreases more considerably after 1994, date of introduction of systematic screening of HCV among blood donors. In contrast, despite the inactivation of the factors concentrates and the systematic screening of the blood donations against HBs antigen, since 1973, the risk of HBV infection contamination remains high in the Tunisian haemophiliacs. The introduction in 1995 of hepatitis B vaccination in the national schedule of new-born vaccination may resolve in the future the problem of HBV infection in haemophiliacs and in the other categories of the Tunisian population.

Age-specific seroprevalence of hepatitis a among school children in central Tunisia.

Am J Trop Med Hyg. 2005 Jul;73(1):40-3.
Letaief A, Kaabia N, Gaha R, Bousaadia A, Lazrag F, Trabelsi H, Ghannem H, Jemni L.

Hepatitis A virus (HAV) has different epidemiologic and clinical patterns, depending on the level of endemicity in a given geographic area. Tunisia is considered a region of high endemicity for hepatitis. Improvement of socioeconomic conditions in this country has made a determination of the seroprevalence of this disease advisable. We assessed the seroprevalence of HAV in Sousse in central Tunisia. A total of 2,400 school children 5-20 years of age (mean +/- SD age = 11.7 +/- 3.5 years) were selected by two-stage cluster sampling and tested serologically for IgG antibody to HAV by using an enzyme-linked immunosorbent assay. The overall seroprevalence among this population was 60% (44%, in children < 10 years old, 58% in those 10-15 years of age, and 83% in those > 15 years of age. Seroprevalence also varied according to area of residence. At the age of 10, 21.3% of school children living in the urban areas and 87.7% of those living in rural areas had antibodies to HAV. Other factors that increased seroprevalence included non-potable water, crowding, and a low education level of parents with odds ratios of 4.37, 2.96, and 2.62, respectively. This study has shown an increase of seroprevalence with age, suggesting that transmission among younger children has decreased, particularly in urban areas. Programs to prevent hepatitis A may need to be modified based upon the changing age distribution of the disease and mass vaccination program could be indicated if additional incidence and prevalence data confirm the intermediate endemicity of HAV.

Contrasting patterns of hepatitis C virus infection in two regions from Tunisia.

J Med Virol. 2005 Jun;76(2):185-93.
Mejri S, Salah AB, Triki H, Alaya NB, Djebbi A, Dellagi K.

This report is a population-based study describing the pattern of hepatitis C virus (HCV) infection in two distinct regions in Tunisia. The study included a total of 11,507 individuals sampled in 1996 from both genders, all age groups, urban and rural settings belonging to 2,973 families. HCV infection was assessed by commercial enzyme immunoassay (EIA) and immunoblot assays and detection of HCV RNA by PCR. HCV genotypes and subtypes were determined by sequencing in the 5'-untranslated region (UTR) viral genomic region and the INNO-LiPA HCVII genotyping kit. Genetic relatedness between HCV strains was assessed by sequencing of a portion of the NS5B region. HCV prevalence was significantly higher in the North-Western region than in the Southern one: 1.7% versus 0.2% (P < 10(-3), chi(2) = 8,506). There was no difference in positivity according to gender or living in rural or urban settings; the only significant risk factor was advanced age. HCV prevalence among household contacts of HCV positives was not significantly higher than the prevalence in the whole study population. These results indicate a heterogeneity in the geographical distribution of HCV in Tunisia. An increased HCV transmission occurs in the North-Western region with large predominance of genotype 1b (88%) and low contribution of intrafamilial transmission. Copyright 2005 Wiley-Liss, Inc.

Detection and genotyping of GBV-C virus in the United Arab Emirates.

J Med Virol. 2005 Aug;76(4):534-40.
Abu Odeh RO, Al-Moslih MI, Al-Jokhdar MW, Ezzeddine SA.

GB virus-C/Hepatitis G virus (GBV-C/HGV), collectively known as GBV-C, is spread widely and has been reported to be associated with non A-E hepatitis. The aim of the current project was to determine the rate of infection and genotypic characteristics of GBV-C in the United Arab Emirates (UAE). A total of 379 plasma/serum samples representing different populations in the UAE and comprising healthy as well as patients positive for HBV and HCV were screened using RT-PCR/nested PCR of the 5'-untranslated region (UTR). National subjects (n=168) and non-nationals residing in the UAE (n=211) were tested. The results obtained showed that the rate of GBV-C infection in healthy nationals, and those positive for HCV or HBV were 11.1%, 14.3%, and 5.7%, respectively, compared to 8.3%, 33.3%, and 8.6%, respectively, in non-nationals. No statistically significant correlation between infection with GBV-C and HCV or HBV (P>0.05) was found. Sequence analysis of the 5'-UTR using 37 and 46 clones from 8 and 6 healthy nationals and non-nationals, respectively, revealed the prevalence of the European/North American genotype 2 when compared to the five reference genotypes in GenBank. (c) 2005 Wiley-Liss, Inc.

SEN virus prevalence among non-B and non-C hepatitis patients with high liver function tests in the south of Turkey.

Jpn J Infect Dis. 2005 Dec;58(6):349-52.
Serin MS, Koksal F, Oksuz M, Abayli B, Aslan G, Tezean S, Yildiz C, Kayar B, Emekdas G.

We investigated the characteristics and detection rates of SEN virus (SENV) infection among 100 Turkish patients who had with high alanine aminotransferase (ALT) and aspartate aminotransferase levels but were negative for HBV DNA and HCV RNA and had no history of transfusion. As a control group, we also analyzed 50 healthy individuals who had normal ALT levels, were negative for HBV DNA and HCV RNA, and had no history of transfusion. The serum samples of patient and controls were analyzed by PCR to detect the presence of SENV DNA and its two genotypes (SENV-H and SENV-D). We detected SENV DNA in 13 of 100 (13%) patients. Five of 13 (38.46%) patients were positive for SENV-D and 8 of 13 (61.53%) patients were positive for SENV-H DNA. We also detected SENV DNA in 5 of 50 (10%) patients in the control group. Two of 5 (40%) patients were positive for SENV-D and 3 of 5 (60%) patients were positive for SENV-H DNA in the control group. SENV was detected at almost the same frequency in the patient and control group. SENV did not seem to contribute to the pathogenesis of liver disease (P > 0.05) in this cohort. Our results also showed that SENV transmission was not only associated with blood transfusion but also with some other possible routes.

Seroprevalence of hepatitis C virus infection and evaluation of serum aminotransferase levels among haemodialysis patients in Izmir, Turkey.

J Int Med Res. 2005 Nov-Dec;33(6):641-6.
Olut AI, Ozsakarya F, Dilek M.

The seroprevalence of hepatitis C virus (HCV) infection was investigated among haemodialysis (HD) patients. Mean serum aminotransferase levels were also compared over 3 months in HCV-seropositive patients with and without viraemia, as well as in HCV-seronegative HD patients and HCV-seropositive, non-uraemic, viraemic patients. Seroprevalence of HCV infection was 19% among the 437 HD patients tested. Of the 61 HD HCV-seropositive, hepatotoxic medication- and alcohol-free patients, 38 (62%) were found to be viraemic, using quantitative HCV-RNA, on at least one occasion. Mean serum aminotransferase levels were significantly higher in viraemic HD patients (compared with non-viraemic patients), suggesting that HCV-RNA positivity is an important predictor of increased enzyme activity in these patients. As expected, aminotransferase levels in HCV-seropositive HD patients tended to be lower than levels in HCV-seropositive non-uraemic patients.

Prevalence and risk factors for HEV infection in pregnant women.

Med Sci Monit. 2005 Dec 19;12(1):CR36-39
Oncu S, Oncu S, Okyay P, Ertug S, Sakarya S.

Background: Hepatitis E is an infectious viral disease with clinical and morphological features of acute hepatitis, clinically similar to other forms of acute viral hepatitis except in pregnant women, in whom the illness is particularly severe and has a high mortality rate. The present study was conducted in western Turkey to investigate the prevalence and risk factors for HEV infection in pregnant women.
Material/Methods: The data for the study were acquired from health centers in urban and rural areas of Aydin province, Turkey. The study design was cross-sectional. Multistage sampling was used to select the study group. Samples were tested for anti-HEV IgG by commercial ELISA test.
Results: A total of 386 pregnant women were included in the study. Antibodies against HEV were detected in 27 of the 386 pregnant women (7.0%). The prevalence of HEV seropositivity was significantly lower (2.5%) in women with a higher education level when compared to women with a lower education level (9.7%) (p=0.023). No significant differences were identified between seropositive and seronegative women in terms of age, source of water supply and place of residence.
Conclusions: According to our results, education seems to be the only factor affecting the prevalence of HEV infection in pregnant women. The prevalence rate we found was similar to the results obtained in previous community-based studies conducted in western Turkey.

Short communication: evaluation of the correlation between hepatitis D virus (HDV) RNA positivity and HDV antibodies

Mikrobiyol Bul. 2005 Jul;39(3):345-9.
Ozekinci T, Atmaca S, Akpolat N, Temiz H, Arikan E.

The objective of this study was to evaluate the correlation between serum hepatitis D -delta- virus (HDV) RNA detection and anti-HDV IgG and IgM antibodies, in the serodiagnosis of delta hepatitis. A total of 153 HBsAg positive sera were screened for the presence of anti-HBc IgM, anti-HDV IgG and anti-HDV IgM by commercial enzyme immunoassays and HDV-RNA by real time polymerase chain reaction (PCR). Of 153 sera, 86 (56.2%) were found positive for HDV antibodies. Although isolated anti-HDV IgG was present in 35 and isolated anti-HDV IgM was present in 11 patients, IgG and IgM were present concurrently in 40 additional patients. HDV-RNA was detected in 21.5% (33/153) of the patients. Four of the 33 HDV-RNA positive patients were positive only for anti-HDV IgG, 8 were positive only for anti-HDV IgM, and 19 were positive for both anti-HDV IgG and IgM antibodies. Twenty seven of 51 (53%) anti-HDV IgM positive patients were also found positive for HDV-RNA, while 27 of 33 (82%) HDV-RNA positive patients exhibited anti-HDV IgM positivity. Increased serum ALT levels were detected approximately in 85% (28/33) of viremic patients. As all of the HDV-RNA positive patients were found negative for anti-HBc IgM, superinfection with delta virus were considered. In conclusion, PCR is a sensitive and useful method for the detection of viremic patients as well as for the monitorization of antiviral therapy, anti-HDV IgM positivity together with increased ALT levels appear to be good markers for the prediction of hepatitis delta viremia, especially in the countries with limited economical sources as Turkey.

Immune response to hepatitis B vaccine among children in Yemen.

Saudi Med J. 2005 Feb;26(2):281-4.
Sallam TA, Alghshm HM, Ablohom AA, Alarosi MS, Almotawakel RE, Farea NH, Mosleh AA.

Objective: This study looks into the immune response to hepatitis B vaccine (HBV) among children who completed the 3 doses of vaccine 7-years after inclusion of HBV vaccination to the National Extended Program for Immunizations (EPI) in Yemen.
Methods: Between March 2002 and October 2002, a total of 170 children, aged 13-73 months with a mean age of 43.64 +/- 17.42 SD months; and have completed the 3 HBV vaccine doses were investigated for immune response to HBV vaccine by quantifying anti-HBs. Past infection was investigated by testing children to total anti-HBc.
Results: Of all children, 49.4% were males and 50.6% were females. One hundred and forty-two (83.5%) responded to the vaccine (antibody level > or = 10 mIU/ml). Only 3 children of 153 (2%) were reactive to anti-HBc indicating that the response was due to vaccination rather than combined effect of vaccine and HBV past-infections. There was a trend of decreasing antibody level with an increasing age. However, the difference in antibody levels between age groups was not statistically significant (p=0.40). Significantly lower antibody level (p=0.02) was found among children with a low economic status.
Conclusion: This study has revealed a high response rate to HBV vaccine. However, a considerable proportion (32.4%) of vaccinated children remains to be reconsidered for either revaccination or booster doses due to lack, inadequate or low response. The trend of decreasing antibody level with increasing age suggests a need of careful monitoring of HBV vaccine efficacy in Yemen. Demographic factors such as gender number of inhabitants per room and educational level of father did not significantly affect the immune response to HBV vaccine.

Hepatitis newswire in October 2005

The study of IgG subclass profiles of anti-hbc in populations with different status of HBV infection.

Cell Mol Immunol. 2005 Oct;2(5):393-8.
Yang YY, Huang CF, Wei JC, Ho MS, Wang LN, Lin SJ, Tsai WY, Lin CC, Xu FL, Yang CC.

To study IgG subclasses for the hepatitis B virus (HBV) core antigen (anti-HBc) in different populations, a comparison was made between 104 chronic carriers (60 male and 44 female) and 434 recovered individuals (247 male and 192 female). Biochemistry analyses of AST (aspartate aminotransferase) and ALT (alanine aminotransferase) were also performed. Among the 104 chronic carriers, 21 patients were found to be ALT and AST abnormal (> 25 IU/ml). After comparing these ALT and AST abnormal patients with other ALT and AST normal chronic carriers, no statistical difference was observed in the OD values of the anti-HBe ($p > 0.05$). The ELISA results showed the anti-HBc IgG subclass pattern was IgG1 > IgG3 > IgG4 in chronic carriers and IgG3 > IgG1 > IgG4 in recovered individuals ($p < 0.05$). This result suggests the IgG1/IgG3 ratio may be related with HBV status. However, in spite of the different anti-HBc IgG1/IgG3 patterns demonstrated in different populations, both anti-HBc IgG1 and IgG3 concentrations were significantly higher in chronic carriers ($p < 0.05$). Therefore, both the anti-HBc IgG1/IgG3 ratio and their amounts differed. They may play a significant role in chronic carriers and recovered individuals. The anti-HBc IgG subclass profiles of chronic carriers were not changed regardless of liver inflammation, and were independent of sex and age.

HBV-DNA and sFas, sFasL concentrations in serum of healthy HBsAg carriers.

Rocz Akad Med Bialymst. 2005;50:179-82.
Lapinski TW, Kowalczuk O, Prokopowicz D, Chyczewski L, Jaroszewicz J.

Purpose: Increased HBV-DNA concentration is a prognostic factor of disease progression in chronic hepatitis B patients. Moreover, active hepatic inflammation during HBV replication influences apoptosis intensification. The aim of this study was to estimate occurrence of HBV replication among carriers of HBsAg. Furthermore, we analysed the correlation between HBV replication and HBeAg or anti-HBe presence as well as known apoptosis indicators--sFas and sFasL concentration.
Material and Methods: The study included 34 HBV infected patients, aged 20-43 yrs defined as HBsAg healthy carriers. HBV-DNA was extracted from patients' serum using two different DNA isolation kits: the QIAamp DNA Mini Kit (QIAGEN Ltd, USA) and the Gene Elute Mammalian Genomic DNA Miniprep Kit (Sigma, USA). HBV-DNA concentration in serum was measured by RT-PCR based on TaqMan Universal Master Mix (Applied Biosystems). The detection limit of this system was as few as 10 HBV-DNA copies/mL of serum. HBV-DNA concentration was calculated from a linear standard curve obtained between 10 and 10(8) DNA copies/reaction. HBeAg and anti-HBe in serum were detected by MEIA method (ABBOTT, Germany). The concentration of sFas and sFasL in serum was-estimated by ELISA method (Bender MedSystems, Austria).
Results: HBV active replication was detected in 79% HBsAg carriers. The HBV-DNA levels exceeding 10(5) copies/mL were observed in 64% patients. Among HBsAg carriers presenting HBeAg, HBV replication occurred more often and was more intensify than in HBsAg carriers presenting anti-HBe antibodies. The sFasL occurrence in serum of 56% HBsAg carriers shows an active apoptosis, independent from ALT and AST activity within normal ranges.

Prevalence and treatment of hepatitis C virus genotypes 4, 5, and 6.

Clin Gastroenterol Hepatol. 2005 Oct;3(10 Suppl 2):S97-S101.
Nguyen MH, Keeffe EB.

Infection with hepatitis C virus (HCV) genotypes 4-6 (with the previously named genotypes 7-9 included as subtypes of genotype 6) is distributed and studied less widely than genotypes 1-3. However, genotypes 4-6 are very common in geographic areas where chronic hepatitis C is highly prevalent. In fact, the majority (87%) of the 169.7 million HCV-infected individuals worldwide are from western Pacific countries (62.2 million), southeast Asia (32.3 million), Africa (31.9 million), and eastern Mediterranean countries (21.3 million). It is among this large population outside of the Americas and Europe that these less well known genotypes are found: genotype 4 in Egypt and Africa, genotype 5 in South Africa, and genotype 6 in southeast Asia. The existing literature, although limited, suggests that patients with chronic hepatitis C genotypes 4-6 may exhibit different clinical courses and treatment outcomes. Ethnicity-related factors may contribute to the presence of more advanced disease in patients with genotype 4, who also tend to have a poor response to interferon-based therapy. HCV genotype 5 appears to be an easy-to-treat virus with response rates similar to those of genotypes 2 and 3 after a 48-week course of therapy. Response to treatment in patients with HCV genotype 6 may be at an intermediate level between that seen with genotype 1 and genotype 2 or 3. The optimal duration of treatment (24 vs 48 wk) for HCV genotype 6 is unclear and currently is under investigation.

Hepatitis newswire in November 2005

Treatment with daily consensus interferon (CIFN) plus ribavirin in non-responder patients with chronic hepatitis C: A randomized open-label pilot study.

J Hepatol. 2005 Nov 28.
Cornberg M, Hadem J, Herrmann E, Schuppert F, Schmidt HH, Reiser M, Marschal O, Steffen M, Manns MP, Wedemeyer H.

Background: Therapeutic options for hepatitis C non-responder patients are limited.
Methods: We initiated an open-label pilot study to investigate the efficacy of CIFN plus ribavirin on viral kinetics, sustained virological response (SVR), and histological response in hepatitis C non-responder patients. Seventy-seven patients were enrolled to receive CIFN given daily in combination with 1000/1200mg ribavirin. An 8-week induction-dosing regimen of 18mug CIFN, followed by 9mug for 40 weeks was compared to 9mug CIFN for 48 weeks. 90% of patients were infected with HCV-genotype 1.
Results: Overall, 82% of the patients demonstrated an early virological response, 65% had an end-of-treatment response, and the SVR was 30%. Interferon/ribavirin non-responders

demonstrated a SVR of 22%. Induction-dosing resulted in a greater first-phase HCV-RNA decay that, however, did not translate to better SVRs, presumably due to more dose modifications. High ALT, younger age, and second-phase viral kinetics were associated with SVR. Only sustained responders and relapse patients showed an improved liver histology.
Conclusion: Daily dosing of CIFN plus ribavirin may be a promising concept for selected non-responder patients before considering therapies which are anti-viral but not curative. However, motivation and compliance are requisites and a CIFN induction is not required.

Long term outcome and response to therapy of primary biliary cirrhosis-autoimmune hepatitis overlap syndrome.

J Hepatol. 2005 Nov 15.
Chazouilleres O, Wendum D, Serfaty L, Rosmorduc O, Poupon R.

Background/Aims: Whether primary biliary cirrhosis (PBC)-autoimmune hepatitis (AIH) overlap syndrome requires immunosuppressive therapy in addition to ursodeoxycholic acid (UDCA) is a controversial issue.
Methods: Seventeen patients with simultaneous form of strictly defined overlap were followed for 7.5 years. First-line treatment was UDCA alone (UDCA) in 11 and combination of immunosuppressors and UDCA (UDCA+IS) in 6.
Results: Characteristics at presentation were not significantly different between the 2 groups. In the UDCA+IS group (f-up 7.3 years), biochemical response in terms of AIH features (ALT<2ULN and IgG<16g/L) was achieved in 4/6 and fibrosis did not progress. In the UDCA group, biochemical response was observed in three patients together with stable or decreased fibrosis (f-up 4.5 years) whereas the eight others were non-responders with increased fibrosis in four (f-up 1.6 years). Seven of these eight patients subsequently received combined therapy for 3 years. Biochemical response was obtained in 6/7 and no further increase of fibrosis was demonstrated. Overall, fibrosis progression in non-cirrhotic patients occurred more frequently under UDCA monotherapy (4/8) than under combined therapy (0/6) (P=0.04).
Conclusions: Combination of UDCA and immunosuppressors appears to be the best therapeutic option for strictly defined PBC-AIH overlap syndrome.

Multiple viral infections.

J Hepatol. 2005 Nov 28.
Gaeta GB, Precone DF, Cozzi-Lepri A, Cicconi P, Monforte AD.

Individuals at risk of HIV are concomitantly at risk of acquiring parenterally or sexually transmitted viruses. Multiple hepatitis co-infection (HBV+HCV; HBV+HDV; HBV+HDV+HCV) has not been systematically sought after in the large cohorts of HIV-infected patients, but has been reported in 0.4% to more than 50% of patients. HIV-infected patients with multiple hepatitis have a higher rate of liver-related morbidity and mortality than patients with HIV infection alone or with a single hepatitis co-infection. The degree of immunodepression is an important factor in liver disease progression. Since GBV-C virus is transmitted parenterally or by sexual contact, a high prevalence was found in chronic hepatitis C and in HIV-infected patients. Patients with multiple hepatitis have been excluded from randomised therapeutic trials of viral hepatitis in HIV-infected and HIV-negative patients. Thus, the therapeutic approach is based on the results of a small series and empirically oriented toward the prevailing infection. HIV-infected patients should be tested for hepatitis B, C and D systematically and hepatitis B vaccination should be considered for those with HCV co-infection and absence of HBV markers. Studies are needed to assess treatment strategies.

Treatment options in HBV.

J Hepatol. 2005 Nov 28.
Craxi A, Antonucci G, Camma C.

The available evidence on interferon-alpha (IFN) treatment for chronic hepatitis B is sufficient to conclude that in patients with HBeAg positive chronic hepatitis, standard IFN therapy significantly improves clearance of HBeAg (number needed to treat [NNT]=4), loss of HBV-DNA (NNT=4) and clearance of HBsAg (NNT=18). HBeAg positive patients with normal or slightly raised ALT should be treated only if there is histological evidence of progressive disease. In patients with HBeAg negative chronic hepatitis, less than 20% of subjects who have achieved an end-of-treatment virological response after a course of standard IFN mantain a sustained virological response in the long-term. IFN treatment could help to delay or prevent disease decompensation and liver-related deaths but further large studies are needed. Lamivudine is effective at reducing, and sometimes clearing, HBV replication in heavily immunosuppressed patients and can be safely administered to patients with advanced liver disease. Lamivudine should be continued over an undefined extended period of time, with a switch from lamivudine to adefovir if there is an HBV-DNA breakthrough under therapy. Adefovir, excluding cost, is preferable to lamivudine as a first-choice because there is less chance of inducing resistance. The long-term benefit of lamivudine and adefovir and the role of combinations is under investigation.

Retinopathy during interferon treatment in combination with ribavirin for chronic hepatitis C

Nippon Ganka Gakkai Zasshi. 2005 Nov;109(11):748-52.
Nakamura T, Takahashi H, Koike N, Mitsutaka M, Soda M, Kimu M.

Purpose: To observe the retinopathy of the patients who received interferon/ribavirin for treatment of chronic hepatitis C.
Methods: We observed 6 patients(5 males and 1 female) who received interferon/ribavirin for treatment of chronic hepatitis C. Visual acuity tests and detailed fundus examinations were performed monthly during 6 months of interferon/ribavirin therapy.
Results: All patients developed soft retinal exudate and 5 developed retinal blot hemorrhage. None of the patients exhibited visual impairment or subjective symptoms during the treatment period, and the retinopathy disappeared or decreased in all patients. All of the patients in this study developed interferon retinopathy while undergoing interferon/ribavirin combination therapy.
Conclusion: Because the combination of ribavirin with interferon may increase the incidence of interferon retinopathy, and cases of severe retinal complications have also been reported, careful fundus examinations should be performed during combination therapy, just as they are performed during conventional interferon therapy.

Hepatotoxicity of antiretrovirals: Incidence, mechanisms and management.

J Hepatol. 2005 Nov 28.
Nunez M.

One of the toxicities linked to the use of antiretrovirals is the elevation of transaminases. Liver toxicity is a cause of morbidity, mortality, and treatment discontinuations in HIV-infected patients. While several antiretrovirals have been reported to cause fatal acute hepatitis, they most often cause asymptomatic elevations of transaminases. Liver toxicity is more frequent among subjects with chronic hepatitis C and/or B. The incidence of drug-induced liver toxicity is not well known for most antiretrovirals. The contribution of each particular drug to the development of hepatotoxicity in a HAART regimen is difficult to determine. Possible pathogenic mechanisms involved in hepatotoxicity are multiple, including direct drug toxicity, immune reconstitution in the presence of HCV and/or HBV co-infections, hypersensitivity reactions with liver involvement, and mitochondrial toxicity. Other pathogenic pathways may be involved, such as insulin resistance caused by several antiretrovirals, which may contribute to the development of steatohepatitis. The management of liver toxicity is based mainly on its clinical impact, severity and pathogenic mechanism.

Hepatitis newswire in December 2005

Dysplastic nodules frequently develop into hepatocellular carcinoma in patients with chronic viral hepatitis and cirrhosis.

Cancer. 2005 Dec 20.
Kobayashi M, Ikeda K, Hosaka T, Sezaki H, Someya T, Akuta N, Suzuki F, Suzuki Y, Saitoh S, Arase Y, Kumada H.

Background: Advances in imaging technology have enhanced the detection of small nodular lesions during the course of chronic liver disease.
Methods: Between 1995 and 2002, the authors examined 154 consecutive patients with small hepatic nodules without hepatocellular carcinoma (HCC) over a median duration of 2.8 years. The median size of these nodules was 14 mm (range, 7-40 mm). The initial histopathologic diagnosis included high-grade dysplastic nodule (HGDN) (n = 13), low-grade dysplastic nodule (LGDN) (n = 42), and regenerative nodule (RN) (n = 99). RESULTS: A total of 29 (18.8%) nodules developed into HCC during the observation period. Cumulative HCC development rates at the first, third, and fifth year were 46.2%, 61.5%, and 80.8% for HGDN; 2.6%, 30.2%, and 36.6% for LGDN; and 3.3%, 9.7%, and 12.4% for RN, respectively. The rate of HCC development was significantly higher in the HGDN group than for other types (P < 0.001). Multivariate analysis disclosed that histopathologic diagnosis (P < 0.001) and findings on computed tomographic arterial portography (CT-AP) (P = 0.004) were significantly associated with future HCC development. The hazard ratios of HGDN and LGDN were 16.8 (95% confidence interval [CI], 6.19-45.6) and 2.96 (95% CI, 1.20-7.31), respectively. A decrease in portal blood flow also showed a significantly high hazard ratio of 3.04 (95% CI, 1.42-6.50). Approximate annual development rate to HCC was 20% in patients with HGDN and 10% in LGDN.
Conclusion: HGDN should be considered a precancerous lesion when it appears during follow-up of chronic viral hepatitis or cirrhosis. Reduced portal blood flow in the nodule on computed tomography-AP is also an important predictor for development of hepatocellular carcinoma. Cancer 2006. (c) 2005 American Cancer Society.

Clinical characteristics and prognosis of pediatric hepatocellular carcinoma.

World J Surg. 2005 Dec 16.
Yu SB, Kim HY, Eo H, Won JK, Jung SE, Park KW, Kim WK.

Introduction: Hepatocellular carcinoma (HCC) is a rare pediatric malignancy that is usually advanced at diagnosis, with a relatively poor prognosis. Extensive treatment, including complete tumor resection, is believed to be necessary for cure. This study was performed to analyze treatment results and to search for prognostic factors of pediatric HCC.
Methods: Between March 1982 and February 2004 a total of 16 children had been diagnosed as having HCC in our institution, and a retrospective analysis was performed.
Results: The median age at diagnosis was 10.5 years, and the male/female ratio was 11:5. As a predisposing condition, hepatitis B virus (HBV) infections were present in 11 (68.8%) and liver cirrhosis in 8 (50.0%). Including 1 patient with a liver transplant, 4 patients (25.0%) underwent a primary operation with complete tumor resection, and 11 (68.8%) received neoadjuvant chemotherapy because of their inoperable state at diagnosis. After neoadjuvant chemotherapy, complete tumor resection was performed in four (36.4%). Thus complete resection was undertaken in a total of eight patients (50.0%). The estimated 5-year survival rate of all patients was 27.3%. The 5-year survival rate for patients who underwent complete tumor resection was 62.5%, and for those who underwent palliative resection or no operation it was 0%. The statistically significant prognostic factors were tumor stage, presence of metastasis, and complete tumor resection.
Conclusions: This study confirmed that complete tumor resection is essential for cure in pediatric patients with HCC, and neoadjuvant chemotherapy improves the tumors' resectability.

Candidates for therapy: HBV.

J Hepatol. 2005 Dec 1.
Dusheiko G.

Hepatitis B may cause liver damage ranging from mild chronic hepatitis to severe active hepatitis, cirrhosis and hepatocellular carcinoma. HIV and HBV co-infection is more likely to lead to lower rates of HBeAg seroconversion, and higher HBV DNA concentrations. Immune restitution may lead to more severe hepatitis. The timing of acquisition of HBV versus HIV will have a bearing on considerations of treatment. Patients may have acquired HIV super-infection of chronic hepatitis B, HBV super-infection of HIV; alternatively, reactivation of hepatitis B may occur in a HIV positive patient, or the patient may be co-infected at diagnosis. The patient may be na inverted question markve or experienced or have resistant (HBV) at the time superinfection. The risk of death is higher in patients with co-infection compared to those with HBV alone. The goals of therapy for hepatitis B are to prevent progression of the disease. If HBV replication can be suppressed, the accompanying reduction in histological activity lessens the risk of progression. Patients may request treatment to reduce infectivity, and this is relevant in co-infected patients. HBV has little effect on HIV or the effect of treatment on HIV; however, HIV, and HIV treatment profoundly effects the natural history of HBV. Therefore, it is usually important to target treatment of HBV

to alter the outcome and take into account the impact of HBV treatment on HIV. Special concepts of treatment are applicable in HIV and HBV co-infected patients.

Mutations conferring resistance to SCH6, a novel hepatitis C virus NS3/4A protease inhibitor: Reduced RNA replication fitness and partial rescue by second-site mutations.

J Biol Chem. 2005 Dec 13.

Yi M, Tong X, Skelton A, Chase R, Chen T, Prongay A, Bogen SL, Saksena AK, Njoroge FG, Veselenak RL, Pyles RB, Bourne N, Malcolm BA, Lemon SM.

Drug resistance is a major issue in the development and use of specific antiviral therapies. Here, we report the isolation and characterization of hepatitis C virus (HCV) RNA replicons resistant to a novel ketoamide inhibitor of the NS3/4A protease, SCH6 (originally SCH 446211). Resistant replicon RNAs were generated by G418 selection in the presence of SCH6 in a dose-dependent fashion, with the emergence of resistance reduced at higher SCH6 concentrations. Sequencing demonstrated remarkable consistency in the mutations conferring SCH6 resistance in genotype 1b replicons derived from two different strains of HCV: A156T/V, and R109K. R109K, a novel mutation not reported previously to cause resistance to NS3/4A inhibitors, conferred moderate resistance only to SCH6. Structural analysis indicated that this reflects unique interactions of SCH6 with P'-side residues in the protease active site. In contrast, A156T conferred high level resistance to SCH6 and a related ketoamide, SCH503034, as well as BILN 2061 and VX-950. Unlike R109K, which had minimal impact on NS3/4A enzymatic function, A156T significantly reduced NS3/4A catalytic efficiency, polyprotein processing and replicon fitness. However, three separate second-site mutations, P89L, Q86R, and G162R, were capable of partially reversing A156T-associated defects in polyprotein processing and/or replicon fitness, without significantly reducing resistance to the protease inhibitor.

Clinical analysis of liver damage of 116 malignant lymphoma patients with chronic HBV infection after cytotoxic chemotherapy.

Ai Zheng. 2005 Dec;24(12):1507-9.

Li YH, He YF, Wang FH, Lin XB, Xia ZJ, Sun XF, Lin TY, Huang HQ, Zhang L, Xu RH, Jiang WQ, Guan ZZ.

Background & Objective: Chronic hepatitis B virus (HBV) infection increases the prevalence of liver damage and related death of malignant tumor patients. This study was to investigate the prevalence of liver damage and clinical results in lymphoma patients with chronic HBV infection after standard chemotherapy, and assess high risk factors associated with liver damage for better guidance in clinic.
Methods: Records of 116 lymphoma patients with chronic HBV infection, treated with standard chemotherapy from Jan. 1985 to Jan. 2002 in Cancer Center of Sun Yat-sen University, were reviewed to analyze the prevalence of liver damage, clinical results, and related high risk factors.
Results: Of the 116 patients, 60 (51.7%) suffered liver damage. According to WHO criteria of liver toxicity, 4 (3.4%) were in grade I, 14 (12.1%) in grade II, 15 (12.9%) in grade III, and 27 (23.3%) in grade IV. After treatment for liver damage, 11 (9.5%) patients completed chemotherapy without delay, 27(23.3%) completed chemotherapy with delay of more than 8 days, 16(13.8%) terminated chemotherapy, 6(5.2%) died. Logistic multivariate analysis showed that steroid was a high risk factor of liver damage after chemotherapy.
Conclusions: The prevalence of liver damage is high in lymphoma patients with chronic HBV infection after standard chemotherapy, which led to treatment delay or discontinue, even death. Steroid is a high risk of liver damage.

Timing of interferon therapy and sources of infection in patients with acute hepatitis C.

Hepatol Res. 2005 Dec 13.

Ogata K, Ide T, Kumashiro R, Kumada H, Yotsuyanagi H, Okita K, Akahane Y, Kaneko S, Tsubouchi H, Tanaka E, Moriwaki H, Nishiguchi S, Kakumu S, Mizokami M, Iino S, Sata M.

Background/Aims: Controversy over the selection of patients and optimum therapeutic method for acute hepatitis C has continued. The aims of this study were to investigate the source of infection, and to evaluate the timing of interferon (IFN) therapy in patients with acute hepatitis C in Japan.
Methods: The records of 102 patients from 12 facilities in Japan who developed acute hepatitis C after 1990 were investigated. In the patients treated with IFN, we performed multivariate analysis to investigate factors related to sustained virological response (SVR).
Results: Medical procedure was the most common source of infection, accounting for 32.4% in the 102 patients (33/102). Of 81 patients treated with IFN, 71 patients were followed after IFN therapy, and 57/71 (80.3%) had SVR. The SVR rate was significantly higher in patients treated with IFN within 24 weeks from onset of symptoms than the SVR rate in those treated after 25 weeks (P=0.0016). Multivariate analysis revealed that only the duration between onset of symptoms and initiation of IFN therapy (within 24 weeks) was related to SVR.
Conclusions: Our multicenter cooperative survey revealed that medical procedure was the most frequent source of infection in acute hepatitis C. As concerns the therapy, interferon treatment should be initiated within 24 weeks after onset of symptoms.

Clinical features of chronic hepatitis B patients with YMDD mutation after lamivudine therapy.

J Zhejiang Univ Sci B. 2005 Dec;6(12):1182-7.

Liu KZ, Hou W, Zumbika E, Ni Q.

Objectiove: To study the clinical features of chronic hepatitis B (CHB) patients with tyrosine-methionine-aspartate-aspartate (YMDD) mutation after lamivudine therapy.
Methods: This investigation was a retrospective study of 63 CHB patients with YMDD mutation during lamivudine therapy. Clinical data, including period and types of YMDD mutation; hepatitis B virus (HBV) DNA levels and alanine aminotransferase (ALT) levels before and after YMDD mutation were measured. YMDD mutation in the HBV DNA polymerase gene was determined using polymerase chain reaction (PCR) and direct sequencing. HBV DNA quantification was determined using real-time PCR. Relevant serum markers of HBV were measured. The follow-up period was 12 months after YMDD mutation.
Results: YMDD mutation occurred 7-44 months (median, 21.5 months) after the start of lamivudine therapy. The majority of the cases (42/63, 66.6%) had YMDD mutants detected between 12 and 24 months. Four types of YMDD mutation were observed in this study, rtL180M/M204V mutation was the predominant type (26/63, 41.3%). A proportion of patients (16/63, 25.4%; 12/63, 19.1%) had higher HBV DNA levels and ALT levels (after mutation vs before mutation), respectively.
Conclusions: The majority of patients with YMDD mutants had

similar or lower HBV DNA levels and ALT levels compared with baseline values. This subset of patients might have benefited from the continued lamivudine therapy. The patients with increased ALT and HBV DNA levels (breakthrough hepatitis) should benefit from the addition of a newer nucleotide analogue (e.g. adefovir).

Treatment of viral hepatitis in HIV-coinfected patients-adverse events and their management.

J Hepatol. 2005 Dec 1.

Mauss S.

For the treatment of HBV/HIV-co-infection, study data on interferon-based therapy are very limited and insufficient to draw any specific conclusions. In contrast, data on HBV-polymerase inhibitors (lamivudine, adefovir, tenofovir) are available from controlled trials. Lamivudine is well tolerated and safe, however, development of HBV-resistance is frequent. Adefovir has a nephrotoxic potential and may at least theoretically induce antiretroviral resistance in HBV/HIV-patients treated with adefovir. Tenofovir has gastrointestinal side effects, is associated with hypophospatemia, which has not induced serious osteopenia so far and may have a nephrotoxic potential. For HCV/HIV-co-infection pegylated interferon alpha plus ribavirin is standard of care. Flu-like symptoms, fatigue and depressive mood changes are frequent. In patients with a history of neurotic or minor depression initiation of treatment with antidepressants before the start of interferon-based therapy should be considered. Weight loss may be pronounced in individual cases. A marked decrease in absolute, but not relative CD4+/-cells is the rule, but no relevant increase in opportunistic infection was observed, and anaemia (<10g/dl) is reported in up to 30% of patients. Neutropenia (<1000cells/mul) is observed in up to 50% of the patients. Adverse events specific to the HCV/HIV-patient population as compared to HCV-mono-infected patients are the occurrence of hyperlactaemia/lactic acidosis and hepatic decompensation.

Pretreatment prediction of interferon-alfa efficacy in chronic hepatitis C patients.

Clin Gastroenterol Hepatol. 2005 Dec;3(12):1253-9.

Hayashida K, Daiba A, Sakai A, Tanaka T, Kaji K, Inaba N, Ando S, Kajiyama N, Terasaki H, Abe A, Ogasawara M, Kohara M, Harada M, Okanoue T, Ito S, Kaneko S.

Background & Aims: Interferon has been used widely to treat patients with chronic hepatitis C infections. Prediction of interferon efficacy before treatment has been performed mainly by using viral information, such as viral load and genotype. This information has allowed the successful prediction of sustained responders (SR) and non-SRs, which includes transient responders (TR) and nonresponders (NR). In the current study we examined whether liver messenger RNA expression profiles also can be used to predict interferon efficacy.
Methods: RNA was isolated from 69 liver biopsy samples from patients receiving interferon monotherapy and was analyzed on a complementary DNA microarray. Of these 69 samples, 31 were used to develop an algorithm for predicting interferon efficacy, and 38 were used to validate the precision of the algorithm. We also applied our methodology to the prediction of the efficacy of interferon/ribavirin combination therapy using an additional 56 biopsy samples.
Results: Our microarray analysis combined with the algorithm was 94% successful at predicting SR/TR and NR patients. A validation study confirmed that this algorithm can predict interferon efficacy with 95% accuracy and a P value of less than .00001. Similarly, we obtained a 93% prediction efficacy and a P value of less than .0001 for patients receiving combination therapy.
Conclusions: By using only host data from the complementary DNA microarray we are able to successfully predict SR/TR and NR patients for interferon therapy. Therefore, this technique can help determine the appropriate treatment for hepatitis C patients.

Divergent activities of interferon-alpha subtypes against intracellular hepatitis C virus replication.

Hepatol Res. 2005 Dec 15.

Koyama T, Sakamoto N, Tanabe Y, Nakagawa M, Itsui Y, Takeda Y, Kakinuma S, Sekine Y, Maekawa S, Yanai Y, Kurimoto M, Watanabe M.

Background: Interferon (IFN)-alpha is represented by several structurally related subtypes that show different antiviral and anti-tumor effects. Here, we analyzed differential effects of IFN-alpha subtypes on intracellular hepatitis C virus (HCV) replication using HCV subgenomic replicon system as a model.
Methods: Huh7 and HeLa cells supporting expression of HCV replicon were treated with various concentrations of five recombinant human IFN-alpha subtypes 1, 2, 5, 8, and 10, and with IFN-alpha con1. The effects of IFNs on various cell-signaling pathways were assayed by using ISRE-, GAS-, AP1-, NF-kappa B-, CRE-, and SRE-luciferase reporter plasmids.
Results: Each IFN-alpha subtype suppressed HCV replication in a dose-dependent manner. Among them, IFN-alpha8 was the most effective, while IFN-alpha1 was the least effective with 50% inhibitory concentrations of 0.123IU/ml versus 0.375IU/ml, respectively. These differential effects against HCV replication did not correlate with levels of the IFN-responsive ISRE or GAS reporter activities, nor they did activate the other reporters, AP1, NF-kappa B, CRE and SRE.
Conclusion: There were divergent effects of IFN-alpha subtypes against HCV replication that may be through JAK-STAT-independent pathways. Exploring further mechanisms of action may elucidate IFN-mediated cellular antiviral mechanisms.

Risk of transfusion-transmitted hepatitis C virus in a tertiary hospital in Nigeria.

Public Health. 2005 Dec 16.

Imarengiaye CO, Enosolease ME, Iribhogbe PE, Ehigiegba AE.

Objective: To evaluate the risk of probable iatrogenic hepatitis C virus (HCV) infection following transfusion of donor blood that has not been screened for HCV. STUDY DESIGN: Prospective study.
Methods: Screening for human immunodeficiency virus and hepatitis B virus is routine in the University of Benin Teaching Hospital. HCV screening was performed on transfused bags of donor blood selected at random. The detection of anti-HCV was based on the principle of double antigen sandwich immunoassay, in which purified recombinant antigens are employed sufficiently to identify anti-HCV. The outcomes of interest included the proportion of HCV-positive units of transfused donor blood, the source of blood and the total number of units of blood processed in the hospital blood bank.
Results: A total of 4532 units of donor blood were procured in the blood bank. Of these, 4132 units were certified as fit for transfusion following the hospital protocols. The sources of the transfused blood samples were commercial blood donors [89.2% (n=3687)] and targeted donation [10.8% (n=445)]. One hundred and ninety-two transfused blood samples were randomly screened for HCV, and 3% (n=6) were found to be positive (95%

confidence intervals 0.007-0.06). The likely risk of iatrogenic transfusion-related HCV infection was estimated to be 129 cases/year at the present rate of utilization of donor blood at the University of Benin Teaching Hospital.
Conclusion: There is a risk of iatrogenic transfusion-transmitted HCV in the study hospital. Hospitals in Nigeria should screen for HCV prior to allogeneic transfusion, which may help in avoiding transfusion-related HCV and its probable long-term effects.

Changes in serum and red blood cell membrane lipids in patients treated with interferon ribavirin for chronic hepatitis C.

Clin Exp Med. 2005 Dec;5(4):190-5.
Tanaka H, Miyano M, Ueda H, Fukui K, Ichinose M.

One of the side effects by interferon ribavirin (I/R) treatment is haemolytic anemia, causing some patients to discontinue I/R treatment. The exact mechanism of I/R-induced anemia is unknown. The aim of this study is to evaluate the effects of I/R treatment on the serum lipid and red blood cell (RBC) membrane lipid profiles of patients with chronic hepatitis C (CHC) and the association between changes of RBC membrane lipids and haemolytic anemia by I/R treatment. Fourteen patients with CHC were treated with I/R and their serum lipid profiles were studied. In addition, in seven of the 14 patients, the RBC membrane lipid profiles were analysed. In the RBC membrane lipid composition, the total cholesterol, total phospholipids and cholesterol/phospholipids (C/PL) ratio were significantly increased. Phosphatidylcholine (PC) and the phosphatidylcholine/sphingomyelin (PC/SM) ratio were significantly decreased and other phospholipid fractions were significantly increased. Changes in the serum lipids and RBC membrane lipid profiles of patients with CHC treated with I/R were shown. Especially, a decrease in the RBC deformability and membrane fluidity by changes in these RBC membrane lipids was supposed and it is suggested that those changes may result in haemolytic anemia by I/R treatment.

Histopathological evaluation of liver biopsy specimens in children with chronic hepatitis B.

Hepatol Res. 2005 Dec 15.
Mozer-Lisewska I, Sluzewski W, Mania A, Walewska-Zielecka B, Bujnowska A, Kowala-Piaskowska A, Figlerowicz M.

Introduction: Histopathological evaluation of the liver remains important diagnostic tool. OBJECTIVE: The aim of this study was to assess inflammatory activity, fibrosis and their correlation to the expression of viral antigens in the liver of children with chronic hepatitis B (CHB) before antiviral treatment.
Materials and Methods: The study included 190 liver biopsies of children aged 1.5-18 (mean 7.46+/-4.05 years) with CHB. The histopathological examination was based on the modified Knodell system. Additionally, immunomorphological analysis was performed in 125 specimens to detect HBsAg and HBcAg.
Results: Necroinflammatory activity was scored for mild in 109 children and moderate in 49. Fibrosis was scored for S1 in 90, S2 in 58 and S3-S4 in seven cases. Positive correlation between grading and staging was observed (chi(2)=77.65, p=0.000002). HBsAg was detected in 62 specimens, while HBcAg was found in the nuclei of 108 samples with cytoplasmic expression in 35-28% cases. No correlation of HBsAg expression to histopathological lesions was established whereas partial correlation of HBcAg expression with inflammatory infiltrate was confirmed.
Conclusions: Progression of liver injury in children with CHB varies in severity. Necroinflammatory activity correlates with fibrosis. Expression of viral antigens is independent of histological changes, however confirms the etiology of liver disease.