59 COPPER PROTECTS AGAINST GALACTOSAMINE-INDUCED HEPATITIS

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Although copper is believed to be hepatotoxic in Wilson's disease and Indian Childhood Cirrhosis, the rat shows only minimal hepatic abnormalities on copper loading. To investigate the possibility that copper loading may potentiate the effects of a superimposed hepatitis, groups of rats received D-galactosamine (GalN) 0.85g/Kg ip, with or without previous oral copper supplementation, as copper acetate increasing to 0.2%(w/v) in the drinking water over 7 weeks.

This regimen increased the hepatic copper to 557±143ug/g (control 55±10)($P<.002$). Serum GOT levels for the non-copper-loaded rats rose from 64.8±2.1 to 2860±729 IU/L 24 hrs after the GalN, whereas in copper-loaded rats sGOT only rose to 122±31 IU/L. 24 hrs after GalN, non-copper-loaded rats had developed an intense hepatic inflammatory infiltration with extensive necrosis. In contrast, the copper-loaded rats showed only mild portal tract inflammation and focal necrosis.

Faecal aerotolerant bacterial counts were reduced on copper-loading, suggesting that a decrease in gut-derived endotoxin is related to the protective effect of copper. Alternatively this may result from impairment of prostaglandin synthesis by copper. The effect of copper on the liver may be the sum of its cytotoxic and its anti-inflammatory actions.

60 HEPATITIS B VACCINE WITHOUT IMMUNOGLOBULIN IN THE PREVENTION OF PERINATALLY TRANSMITTED HEPATITIS B VIRUS INFECTION
INITIAL REPORT OF A STUDY IN THE WEST MIDLANDS OF ENGLAND

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A study has been set up to evaluate the efficacy of hepatitis B vaccine alone, without the use of immunoglobulin in interrupting perinatal transmission of hepatitis B virus from carrier mothers to their babies. A 4 dose schedule was used. 14 of 17 babies of e antigen positive carrier mothers became actively immune when immunisations were started within 48 hours of birth. Effectiveness was reduced if immunisation was delayed. This report includes results from a total of 44 babies, the longest period of follow up being 2 years. The success of this scheme compares well with that of more intensive and less practical therapies using immunoglobulin either alone or combined with vaccine, and should be seriously considered for all babies of hepatitis B carrier mothers.

61 CHRONIC HEPATITIS B IN CHILDREN: A RETROSPECTIVE MULTICENTER STUDY IN ITALY.

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This retrospective study concerns 186 children with histologically proven chronic hepatitis B from 9 pediatric centers in Italy (Pavia, Milano, Padova, Modena, Firenze, Roma, Napoli, Catania and Cagliari). Aim of this study was to identify risk factors for children to develop severe liver disease during Hepatitis B virus infection. Male/female ratio was 2:1 and mean age at diagnosis 5.7 years (range 5m-15y). 152 children had histologic evidence of mild or moderately active disease (chronic persistent or lobular or moderately active hepatitis) and 34 a more severe disease (severe chronic active hepatitis/cirrhosis). Although chronic hepatitis B in children seems to have in Italy a more benign course than in adults, three main risk factors with high statistical significance ($p<0.001$) were identified: 1. Early presence of anti-HBe in serum: of 121 patients studied for HBe/antiHBe system at diagnosis 16 (7 anti-HBe +) had severe histologic lesions. 2. Vertical trasmission: of 34 patients with severe disease, 14 had a vertical trasmission of the HBV infection. 3. Age at diagnosis < 2 years: seventeen out of 25 children younger than 2 years at diagnosis had severe disease.

62 WHAT HAPPENS TO HEPATITIS B CARRIER BABIES?

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We have recently followed up a group of infants born in 1974-76 who became hepatitis B carriers as a result of perinatal transmission. 92% of these infants (11/12) remain carriers 9 years later. None have clinical evidence of liver disease. On follow up serum transaminases are well within the normal range, and are significantly lower ($p<0.05$) than in the first 3 years of life. Elevation of transaminases in a hepatitis B carrier child over 3 years of age should therefore not be attributed to the carrier state alone. Of those infants (9/11) who possessed e antigen when first tested all remain carriers of HB surface antigen. However a racial difference in the ability to clear e antigen is becoming apparent. All those of Caribbean origin (3/3) remained e antigen positive. Those of Indian origin (3/3) have all lost e antigen and developed e antibody, while the Chinese children appear to fall into an intermediate group (2/5 remain e antigen positive). We have therefore shown (for the first time) an ethnic difference in the ability to clear e antigen.

63 Effect of a new gastrokinetic agent (Cisapride) on GER in infants.

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Gastroesophageal reflux (GER), due to a dysfunction of the distal part of the esophagus, is common in infants. The 24 hour continuous esophageal pH monitoring has been shown to be one of the most reliable investigation techniques for GER in infants.
20 symptomatic infants with an initially abnormal pH monitoring for all parameters studied (refluxindex (32%), duration of the longest reflux episode(95 min), number of reflux episodes(45), number of reflux episodes > 5 min (14)) were treated with Cisapride, a new non-dopamine blocking gastrokinetic drug which showed in animal models an increased gastric, dudenal and jejunal motility and contractility. The administered dose was 5 dr/kg bodyweight, 4 times daily. No side-effects were observed.
pH Monitoring was repeated after 2 weeks of treatment, in the same conditions. All infants became asymptomatic, and all parameters (refluxindex (7 %), duration of the longest reflux episode (14 min), number of reflux episodes (21), number of reflux episodes > 5 min (3) in 24 hours) showed a significant ($P < 0.001$ for all parameters, except for number of refuxes $P < 0.01$) improvement.
Cisapride seems to be a save new drug, very effective in infants with an overt GER pathology.

64 EFFECT OF CISAPRIDE ON GASTRO-OESOPHAGEAL REFLUX IN CHILDREN WITH CHRONIC BRONCHOPULMONARY DISEASE (CBPD) A pH-METRIC STUDY.

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An impaired oesophageal clearance is characteristically found in children with CBPD (1). In a double-blind, placebo controlled cross-over setting, we studied the effect of the digestive prokinetic drug cisapride (CIS) in 14 infants and children with CPBD (median age : 29 months) by continuous monitoring of the lower oesophageal pH. CIS was dosed at 0.3 mg/kg 4 hours before the start of the measurements, followed by 3 times 0.15 mg/kg every 4 hours. Placebo (PLAC) administration was matched. Results show that, both during the total recording period and during sleep, the % time during which pH was < 4 (t4) and the No. of gastro-oesophageal (GOR) episodes of at least 5 minutes (N5) were significantly ($p \leq 0.05$) reduced by CIS as compared to PLAC.

	Total recording		During sleep	
	CIS	PLAC	CIS	PLAC
t4	3.7 ± 1.1	9.2 ± 2.2	1.2 ± 0.5	6.2 ± 2.1
N5	2.4 ± 0.9	6.5 ± 1.6	0.1 ± 0.1	1.8 ± 0.6

Conclusion : CIS objectively reduces GOR in children, primarily by reducing the number of long duration GOR episodes, which characterize these patients. Clinical trials of CIS in children with CBPD seem justified.

(1) *C. Hoyoux, P. Forget, F. Geubelle. Pediatric Pulmonology 1:149-153, 1985.*