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EFFECTS OF ANTIRETROVIRAL THERAPY (ART) ON LIVER ENZYMES OF BRAZILIAN CHILDREN WITH AIDS

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OBJECTIVE: This study was aimed at determining the frequency of asymptomatic or symptomatic hepatic enzyme elevations in a cohort of HIV-positive children receiving ART in an ambulatory setting and to associate it with potential causative factors.

METHODS: Medical records of 152 children receiving ART, seen at Hospital das Clinicas between March 2003 and April 2004 were prospectively analysed for a median duration of 9.8 months (range 4–12), with a median number of repeat hepatic enzyme determinations of 2.6 (range 1–5) per patient. Of those children, 45.4% were girls and 54.6% were boys. Their ages ranged between 0.6–18.2 years (mean 7.48); 97.4% children acquired HIV infection from vertical transmission and 2.6% from blood transfusion. Laboratory monitoring included aspartate aminotransferase (AST), alanine aminotransferase (ALT), alkaline phosphatase (AP) and gammaglutamyl transpeptidase (GGT). Abnormal hepatic enzymes values were considered when levels rose above the upper limits of normal (ULN). The scoring system was: grade 1 (1.1–4.9 × ULN) grade 2 (5.0–9.9 × ULN) and grade 3 (10.0–15.0 × ULN).

RESULTS: 31 patients (20.4%) had augmented hepatic enzyme values on at least two determinations (AST: 61.3%, ALT 45.2%, GGT 61.3%, PA: 48.4%). Of these, seven patients had hepatosplenomegaly with hepatic steatosis. Only one patient had serological markers for hepatitis C virus. Hepatic disorders were related to: histoplasmosis (one case), malnutrition recovery (one case), and co-administration of antituberculosis (ATB) drugs (six cases, 19.4%). A total of 24 patients (15.8%) were on regimens with two drugs, 115 (75.7%) were on three-drug regimens and 13 (8.6%) on four-drug regimens. Didanosine was the ARV related to most of the hepatic alterations in 83.7% of cases.

DISCUSSION: Our results suggest that ambulatory HIV positive children receiving ART can display elevations of hepatic enzymes without associated evidence of the clinical diagnosis of hepatotoxicity. We observed mild to moderate, grade 1, usually no more than four times the upper limit of normal, asymptomatic elevations of hepatic enzymes in our patients. Our findings point to a relationship between hepatic enzyme elevations and stage C3 of HIV disease, and use of antiretroviral regimens containing four drugs and co-administration of antituberculosis drugs.

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