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Incidence of Aspirin-Related Hepatotoxicity in Pediatric Cases with Acute Rheumatic Fever

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Objective: This study aims to investigate the incidence of hepatotoxicity in pediatric patients who were diagnosed with acute rheumatic fever (ARF) and on aspirin treatment.
Methods: Between January 2008 and August 2015, a total of 173 pediatric patients who were diagnosed with ARF were retrospectively analyzed. Patients who had more than one ARF episodes were assessed separately for each aspirin treatment during the attack. Therefore, 281 ARF attacks in 258 patients were included in this study. Patients with ARF were divided into two main groups, including those who received aspirin and did not. Aspirin group was also divided into two subgroups including those who developed hepatotoxicity and did not. These patients were also classified according to whether they were symptomatic or not. The patients in the hepatotoxic group were divided to subgroups according to the treatment modification. Aspirin-related side effects were examined based on the anti-inflammatory doses and body weight. Incidence of hepatotoxicity was investigated in these groups.
Results: Of a total of 195 episodes, 83(42.6%) were hepatotoxic. Of these,18.5 were symptomatic, and 24.1 were asymptomatic hepatotoxicities. Gastrointestinal symptoms such as nausea and vomiting were present in the patients with symptomatic hepatotoxicity episodes and tinnitus was seen in five episodes. Hepatotoxicity symptoms occurred 14.7±10.6 days after the initiation of aspirin treatment. Aspirin dose reduced during 24 hepatotoxicity episodes, while treatment discontinued and naproxen sodium was initiated during 21 episodes, and ibuprofen was initiated during an episode. Following treatment modification, elevated liver enzymes returned to normal values within 16.1±11.1 days. Between two groups of patients with reduced dose of aspirin or who were switched to anti-inflammatory drugs, there was no statistically significant difference in the time to return to normal values of liver enzymes. Also, there were no significant differences in the incidence of hepatotoxicity in the patients receiving different anti-inflammatory aspirin doses.
Conclusion: Hepatotoxicity is common in the ARF patients receiving aspirin. Although these patients have no symptoms, they should be evaluated for liver enzymes on a regular basis. Reduction of the dose of aspirin or treatment modification with a new anti-inflammatory drug may improve hepatotoxicity in this patient population.