Acute rheumatic fever (ARF) is a multisystem inflammatory disease that results in a serious health concern for the majority of the world's population, particularly in the developing countries. Anti-inflammatory agents such as aspirin, corticosteroids, and antibiotics remain the first-line agents in the treatment of rheumatic fever and usually provide dramatic clinical improvement. Laboratory parameters (erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) activity, can be negatively affected in children receiving anti-inflammatory doses of aspirin. This study aims to investigate the incidence of hepatotoxicity in pediatric patients who were diagnosed with ARF and received aspirin treatment.

**PATIENTS AND METHODS**

Acute rheumatic fever was diagnosed according to modified Jones criteria that modified by AHA in 1992 and 2003. Patients, who were diagnosed with ARF between January 2008 and August 2015, were retrospectively analyzed. Patients, who had initial attacks were included in this study. Only patients who were determined to have had a single episode of systemic disease (excess for rheumatic heart disease), patients who were continuously used drugs for another reason that elevate the liver enzymes were excluded from this study. We have an approval of the study from the Ethics committee of our clinic. Informed consent was obtained from the parents or guardians of all patients.

**RESULTS**

Hepatotoxicity was detected in 15.1±12.2 days in symptomatic attacks and 14.4±9.3 days in asymptomatic patients. The mean value of the duration of normalization of liver function tests in symptomatic attacks was 37.3±8.7 days. Death and permanent organ damage was not observed. However, the remaining 47 patients (56.6%) were asymptomatic (isolated liver enzyme elevation). Among whole study population, 30 patients (36.2%) had mildly elevated liver enzymes and/or newly developed clinical manifestations of hepatotoxicity. Other anti-inflammatory drugs in the ARF treatment protocol for patients with inflammatory dose for aspirin, patients were divided into two groups in terms of aspirin doses of less than 65 mg/kg/day or ≥65 mg/kg/day. Hepatotoxicity frequency was investigated in these groups. Patients were grouped in terms of body weight as; below 25 kg, 25 to 35 kg, and ≥35 kg. Also they were grouped in terms of age, body weight, aspirin dose, and total aspirin amount, and AOD, CRP and ESR levels (Table 3).

**Findings of patients who received aspirin, and analysis of effective parameters on hepatotoxicity development**

Our findings showed that whether or not any effects on hepatotoxicity development are given in Table 3. Frequency of arthritis was significantly higher among patients with hepatotoxicity (p = 0.037). Comparisons of the demographic data and laboratory parameters in terms of presence of hepatotoxicity are given in Table 3. Table 4 shows the laboratory parameters of the patients with and without ARF. Erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) levels were significantly higher among patients with hepatotoxicity. The majority of the patients were between 9 and 15 years of age (70%). Erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) levels were significantly higher among patients with hepatotoxicity. The most common major finding was subcutaneous nodules (30.6%). The least common major finding was subcutaneous nodules (0.4%) and no patient had erythema (Figure 1). The most common major finding was subcutaneous nodules (30.6%). The least common major finding was subcutaneous nodules (0.4%) and no patient had erythema.

**CONCLUSION**

Hepatotoxicity is common in the ARF patients receiving aspirin. As most of these patients have no symptoms, they should be evaluated for liver enzymes on a regular basis. The reduction of the dose of aspirin or treatment modification with a new anti-inflammator drug seems to be a feasible and effective option. Effects of the other NSAIDs on ARF treatment that known to have lesser side effects on liver should be evaluated by new studies.