Heart-Type Fatty Acid Binding Protein (HFABP), Creatine Kinase Myocardial band (CKMB) and Cardiac Troponin I (cTnI) Levels Before and After Pediatric Cardiac Catheterization

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Introduction: The aim of the present study was to evaluate the presence of cardiac injury using biomarkers during cardiac catheterization in pediatric cases.

Methods: The study was conducted on patients who underwent cardiac catheterization at our clinic for diagnostic purposes. The first serum samples were obtained shortly before the procedure, with second serum samples obtained 4–6 hours after the procedure and third serum samples obtained 24 hours after the procedure. Quantitative tests were utilized to measure cardiac troponin I (cTnI), creatine cinaz myocardial band( CKMB) and heart-type fatty acid binding protein (HFABP) levels in the serum samples.

Results: The study analyzed a total of 36 patients underwent cardiac catheterization for diagnostic purposes (16 girl, 20 boy) with a median age of 20 months (range 4–192 months) and a median weight of 7.2 kg (range 4.3–44 kg). The laboratory findings were as follows: cTnI, 0.19±1.91 ng/ml (before procedure), 1.90±2.1 ng/ml (4 hours after procedure) and 0.57±0.66 ng/ml (at 24 hours); and CKMB 3.62±1.93 ng/ml(before procedure), 9.03±8.64 ng/ml(4 hours after procedure), 3.87±4.00ng/ml (at 24 hours) and HFABP, 3.98±2.09 ng/mL (before procedure), 3.93±1.89 ng/mL (4 hours after procedure) and 3.25±1.34 ng/mL (at 24 hours). Substantial increases were observed in the levels of cTnI and CKMB after angiocardiography procedure, while HFABP levels remained unchanged. The increases were even more remarkable in patients aged below 1 year and weighing below 10 kg.

Conclusions: Myocardial injuries can occur during diagnostic cardiac catheterization in the pediatric age group. Special attention must be paid in cases younger than 1 year old and in those weighing below 10 kg.