Risk Factors in Developing Coronary Artery Abnormalities Among Children With Kawasaki Disease

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Introduction and Objective: Kawasaki disease is an acute febrile illness seen in childhood, with 80% of the patients less than 5 years old. It affects the medium sized arteries with predilection of the coronary arteries, causing coronary artery abnormalities. The main objective of this study is to determine the risk factors for developing coronary artery abnormalities based on sociodemographic factors (age and sex), laboratory examinations (hemoglobin count, white blood cell count, platelet count, erythrocyte sedimentation rate, C reactive protein), and the timing of treatment with intravenous immunoglobulin.

Method: This is a case control retrospective study. All children up to 5 years of age, who have met the inclusion criteria, admitted in our institution from 2000 to 2012 with Kawasaki disease were included in the study and divided into two groups according to age. Patients 1 year old and below belonged to group A, and patients beyond 1 year old belonged to group B. Their risk factors were identified, analyzed, and compared using Chi Square test, conditional maximum likelihood estimate, and logistic regression analysis.

Results: Two hundred six records were reviewed and analysed. Twenty six out of 83 patients in group A and 34 out of 123 patients in group B developed coronary artery abnormalities. There were more males who developed coronary artery abnormalities in group A but there were more females in group B. Lower hemoglobin levels (less than 105 milligram per decilitre) in patients with coronary artery abnormalities were mostly seen in group A as compared to group B. Leukocytosis (more than 12,000 cells per cubic millimetre), thrombocytosis (more than 400,000 cells per cubic millimetre), elevated C reactive protein (more than 6 milligram per litre), and elevated erythrocyte sedimentation rate (more than 10 for males and 20 for females) were evident in both groups. Timing of treatment with intravenous immunoglobulin was at an average of 8.67 days for group A and 8 days for group B. Only thrombocytosis, with a p value of 0.02, was statistically significant.

Conclusion: Thrombocytosis is a risk factor in developing coronary artery abnormalities among patients up to 5 years of age with Kawasaki disease.