Severity of Coronary Artery Dilation in Infants with Kawasaki Disease

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Abstract

Introduction: Children <12 months of age with Kawasaki disease (KD) are at increased risk for developing coronary artery abnormalities, but the severity of these abnormalities has not been well-described.

Methods: We retrospectively reviewed the charts of infants who were diagnosed with KD at our institution between June 2005 and November 2015. Clinical, laboratory and echocardiographic data were collected and recorded in REDCap. A 1 sample t-test was used to compare the mean maximum z-score for patients from our sample to that for the entire population of KD patients. Secondary analyses were completed to evaluate factors associated with severe coronary artery abnormalities.

Results: 93 infants with KD were included in the analysis. The median follow-up duration was 13 months (range 1 month – 9.5 years). 52/93 (56%) patients were male, 38/93 (41%) had an incomplete diagnosis, and 13/93 (14%) had treatment delayed beyond the 10^{th} day of illness. Excluding patients treated after the 10^{th} day of illness, the mean maximum z-score for infants was 1.64 standard deviations higher than that for the entire population of patients with KD. 5/13 (38.5%) patients diagnosed after day 10 of illness developed giant aneurysms compared to 6/80 (7.5%) patients diagnosed within 10 days of illness ($p = .001$), prompting treatment of 8/93 (8.6%) patients with systemic anticoagulation in addition to antiplatelet therapy.

Conclusion: Infants with KD have severe coronary artery involvement, and improved therapeutic options are needed for these patients. The striking frequency of giant coronary artery aneurysms in infants with a delayed diagnosis underscores the importance of the prompt recognition of KD. This is especially challenging given the high frequency of infants with KD presenting with an incomplete diagnosis.