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Coronary outcome in Kawasaki disease is independent from the presence or absence of concurrent infection

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Introduction: Missing the diagnosis of Kawasaki disease (KD) with incomplete criteria is a major problem, which increases the risk of coronary artery (CA) complications. Furthermore, similarities between common pediatric infections and KD may further defer clinicians from diagnosing KD, causing rejection or delay of intravenous immunoglobulins (IVIG) therapy. This study evaluated the prevalence and impact of concurrent infection in KD patients.

Methods: A retrospective analysis of consecutive patients suspected of KD between 2008 and 2014 in a tertiary pediatric hospital.

Results: From 128 patients (3.4±2.7 yo), 42 (33%) had concomitant infection, similar for patients with complete and incomplete KD (27% vs 37%, p=0.25). During clinical course, 69 (54%) patients received antibiotics, with treatment failure in 43 (64%). Patients who received antibiotics, as well as those with infections, were more likely to be resistant to IVIG (38% vs 9%, p<0.001 and 36% vs 18%, p=0.03). Coronary aneurysms and dilatations were more common in IVIG resistant patients (20/29 vs 42/93, p=0.03), suggesting refractory KD as opposed to non-KD infectious disease. Ventricular shortening fraction and NT pro-BNP, a marker of myocardial inflammation in KD, were similar between patients with and without infection (figure). Acute coronary dilatation was present in 11/42 (26%) of patients with infection, and 26/86 (30%) of patients without infection (p=0.63), which persisted in 4/42 (10%) and 9/86 (10%) respectively (p=0.87). Similarly, coronary aneurysms, the ultimate KD complication, occurred in a similar proportion (6/42 (14%) and 12/86 (14%); p=0.96), and were related to delayed diagnosis and treatment (p=0.001).

Conclusions: KD and infection are not mutually exclusive. Recognizing that both can coexist, including incomplete KD, will ensure timely IVIG treatment and appropriate containment of coronary artery complications.