The combination of fecal calprotectin and initial coronary dimensions can predict the persistence of coronary artery lesions in Kawasaki Disease in an Italian cohort

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Background.

Kawasaki Disease (KD) is systemic vasculitis involving medium-sized vessels in children. The aim of our study is to determine if fecal calprotectin (FC), a marker of intestinal inflammation, could be useful in predicting the development or persistence of coronary artery lesions (CALs) in KD.

Methods.

Prospective monocentric study including all consecutive diagnoses of KD. Clinical, laboratory, echocardiographic data were recorded during the acute and subacute phase, including FC. Correlations among laboratory values, FC, clinical manifestations (complete and incomplete form), IVIG-responsiveness and CALs development were investigated.

Results.

We enrolled 26 children (76.9% boys; median age 34.5 months). The combination of FC>250 microg/g and z-score>2 during the acute phase was associated with the persistence of CALs (p=0.022). A z-score>2 alone during the acute phase was not related to CALs during the subacute stage (p>0.05). A neutrophil percentage>70% and WBC>15000/mmc during the acute phase significantly correlated with the presence of CALs during the subacute phase (p=0.008). C-reactive protein (CRP)>13 mg/dL at KD onset was significantly associated with the presence of CALs during the acute (p=0.017) and subacute phase (p=0.001).
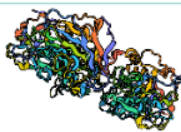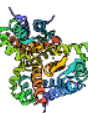
Conclusions.

The combination of FC > 250 microg/g and a z-score > 2 during the acute phase of KD may be used as a predictor of CALs persistence and it can be especially useful in children with an initial CRP > 13 mg/dl. CRP > 13 mg/dL and neutrophil percentage > 70% during the acute phase are independent predictive factors for the persistence of CALs.