

Accuracy of NT-proBNP as diagnostic biomarker for incomplete Kawasaki disease among pediatric population

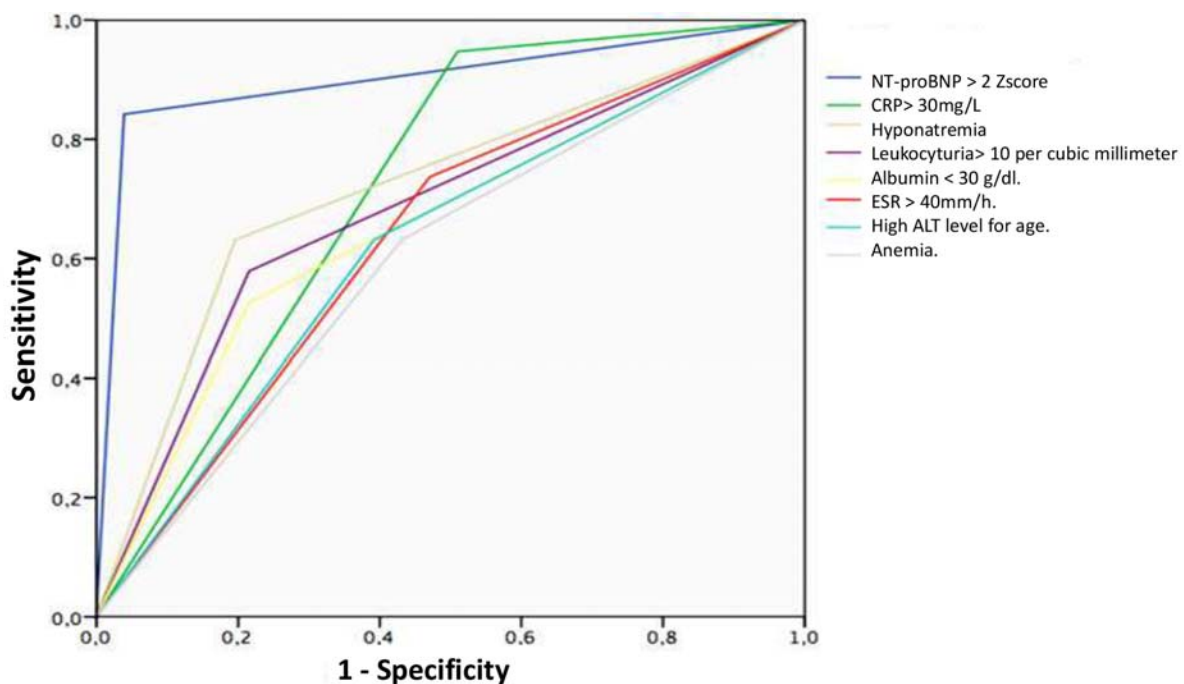
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Objectives: The identification of biomarkers for the diagnosis of Incomplete Kawasaki Disease (iKD) is an area of growing research, with NT-proBNP being one of the most promising. We aimed to evaluate the diagnostic accuracy for iKD of plasma NT-proBNP for iKD diagnosis, and to compare it with analytical parameters included in the current AHA's recommendations.

Methods: We conducted a prospective cohort study including children under 14 year-old admitted with suspected iKD. Patients were divided into iKD and other febrile disease (OFD) based on the final diagnosis made by paediatricians who were unaware of the NT-proBNP value. Through the analysis of ROC curves, the diagnostic accuracy of the analytical parameters of AHA's recommendations for iKD diagnosis was evaluated and compared respect to NT-proBNP.

Results: During three years, 19 cases of iKD (age 1.42 (0.8-4) years) and 51 cases of OFD (age 3.5 (2-6) years) were included. No differences were found between iKD and OFD in any clinical diagnostic criteria. Patients with iKD had higher CRP, ESR, and NT-proBNP plasma levels than OFD (2424 (1325-3629) pg/mL vs 187 (118-356) pg/mL, $p < 0.001$), and lesser albumin and sodium plasma levels. Of all the parameters analyzed, NT-proBNP showed was best diagnostic accuracy for iKD (Sensitivity 84% and Specificity 96%, AUC 0.901 [0.800-0.987], $p < 0.001$) (Figure1).

Conclusions: NT-proBNP could be a valid diagnostic test for EKI and potentially superior to the analytical parameters currently recommended in paediatric patients with suspected iKD.



Keywords: NT-proBNP; Kawasaki disease; Biomarkers.