



# Clinical significance of combined liver function and high-sensitivity C-reactive protein measurement in children with hand-foot-mouth disease

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**ABSTRACT.** Hand-foot-mouth disease (HFMD) is a common pediatric disease responsible for the development of rashes or herpes on the hand, foot, and mouth. Severe complications of HFMD include myocarditis, pulmonary edema, aseptic meningoencephalitis, and even death. Therefore, early diagnosis of HFMD is of particular importance. In this study, we determined the clinical value of the combined detection of liver function and high-sensitivity C-reactive protein (hs-CRP) expression in children with HFMD. Three hundred children with HFMD were recruited to this study between July 2013 and July 2015 and divided into the mild and severe HFMD groups (N = 150 per group). The liver function [aspartate aminotransferase (AST), alanine transaminase (ALT), and alkaline phosphatase (ALP) levels]

and hs-CRP expression were evaluated using standardized tests, and the clinical value of combined detection of these indices (in parallel and serially) was determined. Patients in the severe HFMD group showed significantly higher levels of ALT, AST, ALP, and hs-CRP compared to those in the mild HFMD group ( $P < 0.05$ ). The hs-CRP and liver function tests had low specificity and sensitivity, respectively. However, parallel combined detection improved the sensitivity and negative predicted value of these indices, whereas serial combined detection improved the specificity and positive predicted value. In conclusion, hs-CRP and liver function play a major role in the diagnosis of HFMD (and identifying its severity), and serial combined detection of these indices enhances the positive predicted value, and could be employed to diagnose severe HFMD at an earlier stage.

**Key words:** Hand-foot-mouth disease; Liver function; High-sensitivity C-reactive protein; Alanine transaminase; Aspartate aminotransferase; Alkaline phosphatase