



Dynamic observation of T cell and erythrocyte immune function in children with rotavirus enteritis

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Abstract

AIM: To study the change of T cell subsets and erythrocytes immune function in children with acute rotavirus enteritis (RE) and to explore its clinical significance.

METHODS: T cell subsets were detected by indirect immunofluorescence technique, RBC immune function was achieved by detecting RBC C3b receptor rosette (RBC-CR1R) and RBC immune complex rosette (RBC-ICR). The statistical significance of differences was evaluated by using analysis of variance (ANOVA).

RESULTS: The percentage rate of CD3 and CD4 cell and the ratio of CD4/CD8 in acute stage of RE were significantly lower than those of control ($P < 0.01$), while the percentage rate of CD8 cell remained almost unchanged. Along with the improvement of clinical symptoms, the level of CD3, CD4 and CD4/CD8 returned to normal in recovery stage. RBC-CR1R in acute stage of RE was significantly lower than that of control ($F = 15.44$, $P < 0.01$) and returned to normal in recovery stage. RBC-ICR rose slightly in acute stage of RE, but there was no significant difference between acute stage of RE and the control ($F = 0.02518$, $P > 0.05$). Correlative analysis showed that RBC-CR1R was positively correlated to the percentage rate of CD4 cell ($r = 0.5281$, $P < 0.01$) and the ratio of CD4/CD8 ($r = 0.4832$, $P < 0.01$), in acute stage of RE.

CONCLUSION: Cellular immune might take part in the development of RE, CD4/CD8 ratio might be related to the prognosis of RE. The immune function of RBC reduced secondarily in acute stage of RE. It is necessary to keep the immune function of RBC in treatment of RE in order to strengthen the patient's ability of anti-infection.

Key words: Rotavirus enteritis/in infancy and children; Rotavirus infection/in infancy and children; T-lymphocyte subsets; Erythrocytes/immunology; Fluorescent antibody technique; Analysis, variance

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