

## LACTIC DEHYDROGENASE ISOENZYME IN CEREBROSPINAL FLUID WITH FEBRILE CONVULSIONS

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Background: Lactic dehydrogenase (LDH) is a fermentative enzyme present in many tissues and body fluids, including the cerebrospinal fluid (CSF). Objective: To study the lactic dehydrogenase isoenzyme values in children with simple and complex febrile convulsions. Methods: Cerebrospinal fluid samples were collected from 115 children, 57 with simple febrile convulsions, 27 with complex febrile convulsions, and 31 with no neurological or intracranial pathology (controls). Lactic dehydrogenase activity and isoenzyme levels were measured on a Hitachi analyzer. Results: Mean total lactic dehydrogenase activity was similar in the three groups. In the control group, lactic dehydrogenase-1 was the main fraction, followed by lactic dehydrogenase-2 and lactic dehydrogenase-3; only small percentages of lactic dehydrogenase-4 and lactic dehydrogenase-5 were detected. In the febrile convulsion group, the lactic dehydrogenase-1 fraction percentage was lower and lactic dehydrogenase-2, lactic dehydrogenase-3 percentages were higher than in the control group; and the differences were statistically significant between the control and study groups ( $p < 0.01$ ). Values of lactic dehydrogenase -4 and lactic dehydrogenase-5 were similar in all three groups. Conclusions: This is the first report on the lactic dehydrogenase isoenzyme pattern in the cerebrospinal fluid of patients with simple and complex febrile convulsions. The important finding that focal and general febrile convulsions are not associated with cell damage and changes in aerobic and anaerobic metabolism as lactic dehydrogenase remained fairly unchanged. Analysis of cerebrospinal fluid lactic dehydrogenase isoenzyme levels can assist clinicians in differentiating febrile convulsions from clinical situations that might mimic them.

