

# Lactate dehydrogenase and severity of pain in children with sickle cell disease

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## Abstract

**Objectives:** This prospective study was carried out to assess lactate dehydrogenase (LDH) as a biochemical marker during acute painful episode and steady state in children with sickle cell disease (SCD).

**Design and methods:** A prospective descriptive study has been carried out on children and adolescents with SCD and pain during a vaso-occlusive episode. A total of 76 patients aged 1-18 years were included. Assessment of pain was done using the suitable pain assessment tool (visual analogue scales, Oucher scale) for school and preschool children. Complete blood count, liver function tests, LDH and C-reactive protein assay were performed on all patients during acute painful episode and steady state.

**Results:** LDH has been found to increase significantly during acute painful episode compared with steady state ( $p < 0.01$ ). There is also a significant positive correlation between LDH level and severity of pain ( $p < 0.05$ ). In addition, C-reactive protein level was found to be significantly elevated during acute painful episode ( $p < 0.01$ ) and its level correlates significantly with severity of pain ( $p = 0.01$ ).

**Conclusion:** From this study it can be concluded that LDH is a significant biochemical marker for the severity of pain during a vaso-occlusive episode in SCD.