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**Infantile thiamine deficiency: Redefining the clinical patterns**

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**Abstract**

**Objectives:**Thiamine deficiency (TD) is frequently suspected and treated at our hospital. In our retrospective study, we aimed at finding the clinical and laboratory spectrum of infantile TD presenting to a single center over a period of time.

**Methods:**The diagnosis was made on criterion standard of response to thiamine challenge.

**Results:**TD was suspected in 189 infants at admission; 43 infants were diagnosed as having TD in three distinct forms and a fourth group with mixed presentation. The first group (n = 30), which was the youngest (mean age = 67 d), was always associated with lactic acidosis. They had history of reflux and suddenly became irritable and developed acidotic breathing. This further worsened into shock (46%) and acute respiratory failure (50%). The second group (n = 5) presented with pulmonary arterial hypertension. They had hoarseness of voice and irritability. Chest radiograph showed prominent pulmonary conus. Their clinical course was complicated by congestive heart failure in three. Echocardiographic response to thiamine was uniformly seen within 3 d in this group. The clinical presentation of infants with Wernicke's encephalopathy (n = 5) who were the oldest of all (mean age = 190 d) was constantly marked by presence of bilateral ptosis and encephalopathy preceded by occurrence of vomiting. Their head ultrasonography showed presence of hyperechoic basal ganglia.

**Conclusions:**Three clinically distinct forms of TD were recognized. Lactic acidosis was a universal finding in acidotic form. Infants with pulmonary hypertension as primary presentation are typically associated with aphonia. Infants with Wernicke's encephalopathy can be clinically diagnosed by presence of encephalopathy and ophthalmic signs (ptosis).

**Keywords:**Beriberi; Pulmonary hypertension; Thiamine; Wernicke's encephalopathy.