



Infantile Benign Transient Hyperphosphatasemia Presenting as an Isolated Extreme ALP Elevation in a Toddler Undergoing Preoperative Evaluation

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Received Date: 14 Sep 2026

Accepted Date: 12 Oct 2026

Published Date: 14 Oct 2026

Citation:

Khatri LK, More AB, Govani PS, Patel RV. Infantile Benign Transient Hyperphosphatasemia Presenting as an Isolated Extreme ALP Elevation in a Toddler Undergoing Preoperative Evaluation. *WebLog J Hepatol*. wjhp.2026.j1404. <https://doi.org/10.5281/zenodo.23342966>

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Abstract

Benign Transient Hyperphosphatasemia (BTH) is a self-limiting biochemical condition characterized by marked elevation of serum Alkaline Phosphatase (ALP) in otherwise healthy infants and young children. We report a 14-month-old girl undergoing preoperative evaluation for anorectal malformation who was incidentally found to have an isolated ALP elevation of 2277 U/L. Comprehensive evaluation, including liver function tests, gamma-glutamyl transferase, renal profile, calcium, phosphate, vitamin D levels, and abdominal imaging, revealed no evidence of hepatobiliary, metabolic, renal, or skeletal disease. The child remained clinically well, and repeat testing four months later demonstrated complete normalization of ALP levels, confirming the diagnosis of BTH. Recognition of this benign and transient condition is important to avoid unnecessary investigations, specialist referrals, parental anxiety, and healthcare expenditure. Clinicians should consider BTH in infants and toddlers presenting with isolated extreme ALP elevation in the setting of otherwise normal clinical and biochemical findings.

Keywords: Benign Transient Hyperphosphatasemia; Alkaline Phosphatase; Infancy; Toddler; Hepatology; Incidental Finding

Benign Transient Hyperphosphatasemia (BTH) is a self-limiting biochemical condition characterised by a marked, isolated elevation of serum Alkaline Phosphatase (ALP) in otherwise healthy infants and toddlers [1]. Although benign, the dramatic enzyme rise often leads to extensive investigations and parental anxiety [2]. We report an incidental preoperative detection of BTH in a toddler undergoing evaluation for anorectal malformation.

A 14-month-old otherwise well girl with anterior stenotic perineal fistula was admitted for routine preoperative screening for closure of colostomy. Systemic examination was unremarkable. Full blood count, renal profile, electrolytes, calcium, phosphate, vitamin D, bilirubin, ALT, AST, GGT and coagulation profile were all normal.

However, ALP was markedly elevated at 2277 U/L, discovered incidentally. In the absence of hepatobiliary, bone, renal or metabolic abnormalities, an initial concern for occult cholestasis or bone disease was considered. Bone profile was normal. The abdominal ultrasound demonstrated normal anatomy of liver and biliary tree without any biliary stasis or a choledochal cyst Repeat ALP at four month follow up demonstrated complete normalisation, confirming the diagnosis of BTH.

BTH typically occurs between 6-24 months of age and is frequently associated with recent viral or gastrointestinal illnesses. It is characterised by isolated ALP elevation, normal liver synthetic function, normal GGT, and spontaneous resolution within weeks to months. Recognition of this entity prevents unnecessary investigations, interventions, and parental distress [3].

Clinicians should be aware of BTH when encountering isolated extreme ALP elevation in otherwise well infants and toddlers, particularly in preoperative or incidental testing scenarios.

References

1. Allen NG, Kimbrough T. Benign transient hyperphosphatasemia. *Consultant*. 2022; 62(1): e4-e5.
2. Mansour MM, Al Sayed AA. Transient hyperphosphatasemia in children: recognition of a benign condition to avoid unnecessary investigations. *BMC Pediatr*. 2024; 24: 112.
3. Kumar A, Gupta A, Singh S. Isolated hyperphosphatasemia in toddlers: clinical significance and follow up outcomes. *Indian J Pediatr*. 2023; 90(2): 210-212.