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Benign Transient
Hyperphosphatemia in an Adult
with Malignant Lymphoma

To the Editor:

A transient increase in serum alkaline phosphatase (ALP; EC 3.1.3.1; orthophosphoric-monoester phosphohydrolase alkaline optimum) was first described in apparently healthy infants by Bach in 1954 (1). Posen et al. (2) called the condition "transient hyperphosphatemia of infancy" (TH). However, TH has also been described in two adult cases, one by Rosalki and Hurst in 1976 (3) and one by ChiOhlm in 1986 (4). Here we report the third case of TH in an adult, a woman with malignant lymphoma.

In 1979, a 55-year-old woman with symptoms of lymphadenopathy in the right axillary and inguinal region was admitted to the Shizuoka Red Cross Hospital and pathologically diagnosed as having lymphocytic lymphoma (small diffuse type, LSG classification) by biopsy of the lymph node. The patient was treated with cyclophosphamide, oncovin, and prednisolone, whereupon she underwent complete remission of the disease. The patient has shown no signs or symptoms of recurrence and she is still in remission. In November of 1986, however, she was admitted with a complaint of abdominal pain and macrohematuria. Intravenous pyelography and computer tomography showed no evidence of ureterolithiasis or kidney tumor. The patient's ALP was markedly increased, to 2439 U/L (adult reference interval: 100–270 U/L). Other enzyme measurements were 461 U/L for lactate dehydrogenase (220–420 U/L), 26 U/L for aspartate aminotransferase (10–30 U/L), 9 U/L for alanine aminotransferase (3–25 U/L), and 11 U/L for gamma-glutamyltransferase (0–40 U/L). Her calcium concentration was 2.15 mmol/L (2–2.5 mmol/L) and phosphate was 0.87 mmol/L (0.80–1.30 mmol/L). Bone scintiscan and scintiscan with gallium showed neither bone abnormalities nor the recurrence of lymphoma. The cause of the abdominal pain and macrohematuria was unclear, and the patient was diagnosed as having idiopathic renal hemorrhage.

The ALP activity concentrations before and after the extremely high measurements were consistent, and the increase in ALP activity showed a transient course (Figure 1). No other enzymes showed significant changes comparable with the increase in ALP activity.

Electrophoretic analysis of the highly increased ALP activity in the patient's serum revealed typical double peaks characteristic for TH. The fast a2 band has been reported in most cases with TH (3), and its presence suffices for a diagnosis of TH (5). The patient's ALP returned almost to the upper limit of the reference interval within five weeks.

The ALP activity in the present case is very similar to that described in most reports about TH. Such reports have predominantly dealt with young children, especially those younger than five years. Because we report the third case of TH in an adult, we prefer calling this condition "benign transient hyperphosphatemia" (5) instead of the name "transient hyperphosphatemia of infancy" proposed by Posen et al. (2).

References

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More on Ornithine Decarboxylase

To the Editor:

Further to the comments of Carakostas (1), at least three non-isotopic methods for ornithine decarboxylase (ODC, EC 4.1.1.17) have been described. These methods involve either HPLC with fluorescence detection (2) or spectrophotometry with use of the substrates 2,4-dinitrofluorobenzene or 2,4,6-trinitrobenzenesulfonic acid (3, 4). The inconvenience of an assay is not an overriding factor in drug safety-evaluation studies, but the case for assaying serum ODC is unproven. Until the current guidelines are revised, ODC remains a "suggested" rather than a "mandatory" test. Indeed, published data for tissue ODC measurements may require re-evaluation in view of the artefactual increases that follow the freezing and thawing of whole rat tissues (5).

References
4. Syatkin SP, Berezov TT. A rapid spectrophotometric method for estimation of orni-