A Diabetic Newborn?
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CASE DESCRIPTION
A sample submitted for hemoglobin (Hb) evaluation on a 5-day-old premature male infant with intestinal perforation, intraventricular hemorrhage, anemia, and sepsis contained 61.1% Hb A, 23.7% Hb F, 2.1% Hb A2, and peaks of 8.2% and 5.2% in the P2 and P3 regions of the Bio-Rad Variant II HPLC β thalassemia assay (Fig. 1). Isoelectric focusing showed Hb A, Hb F, Hb A2, and a band comigrating with Hb A1c but no other variants. Hb A1c elutes in the P2 region of this HPLC method (1).

Fig. 1. Hb profile of a newborn by HPLC (Bio-Rad Variant II) β thalassemia assay.

QUESTIONS
1. What Hb variants are present in healthy newborns?
2. Do newborns express Hb A1c?
3. What can explain this unusual Hb profile?

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Hyperphosphatemia in a Patient with Candida Sepsis

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CASE DESCRIPTION

A 56-year-old man with a history of intravenous drug use and multiple infectious complications developed candida fungemia, which was initially treated with fluconazole and then liposomal amphotericin. At admission, he had normal calcium, phosphate, and magnesium but developed persistent hyperphosphatemia (phosphotungstate on Beckman DCxI) with values of 5 to 6.5 mg/dL (reference interval 2.5–4.5 mg/dL) despite only mild, stable renal dysfunction [normal blood urea nitrogen, creatinine 1.5–1.9 mg/dL (reference interval 0.8–1.5 mg/dL)] and continued normal calcium. He also had normal globulins.

QUESTIONS

1. What are common causes of high phosphate?
2. What artifacts cause increased phosphate?
3. What is the likely cause of increased phosphate in this patient?

The answers are below.

ANSWERS

Common causes of high phosphate are renal failure and hypoparathyroidism, which are ruled out by routine laboratory tests. Transient increases occur with lactic acidosis and ketoacidosis, and chronic increases are seen with many endocrine disorders, but there was no clinical evidence of these conditions. Artifactual hyperphosphatemia commonly occurs in myeloma (1). It has also been reported with liposomal amphotericin owing to direct interference

References


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