

IMAGES IN CLINICAL MEDICINE

Lindsey R. Baden, M.D., *Editor*

Severe Vitamin D Deficiency — Rickets



A 12-YEAR-OLD GIRL FROM UKRAINE WAS HOSPITALIZED FOR EVALUATION of a history of long-bone fractures and failure to thrive. On initial presentation, she had hypocalcemia (calcium level, 6.7 mg per deciliter [1.7 mmol per liter]), a low 25-hydroxyvitamin D level (5 ng per milliliter [12 nmol per liter]), an elevated parathyroid hormone level (435 pg per milliliter), an elevated alkaline phosphatase level (546 U per liter), and a normal phosphorus level (4.1 mg per deciliter [1.3 mmol per liter]). These findings were consistent with vitamin D–deficient rickets. She also showed multiple sequelae of long-standing rickets, including costochondral swelling (rachitic rosary), severe thoracic scoliosis, and bilateral tibial–fibular valgus deformities (Panel A). In addition to a diet poor in vitamin D and calcium, the patient had a history of biliary dyskinesia, which may have contributed to poor absorption of fat-soluble vitamins, including vitamin D. The patient received nutritional counseling and was started on calcium and vitamin D supplementation. She underwent spinal fusion and bilateral tibial–fibular osteotomies with considerable improvement (Panel B).

DOI: 10.1056/NEJMicm1205540

Copyright © 2013 Massachusetts Medical Society.

Thomas J. Caruso, M.D.

Massachusetts General Hospital
Boston, MA

Gennadiy Fuzaylov, M.D.

Shriner's Hospital for Children
Boston, MA