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Treatment of vitamin D deficiency due to Crohn's disease with tanning bed ultraviolet B radiation.

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Abstract

In Crohn's disease, severe skeletal demineralization, secondary hyperparathyroidism, and muscle weakness can occur. This may be caused by impaired vitamin D absorption, resulting from extensive intestinal disease and resection of duodenum and jejunum, where vitamin D is absorbed. We report a 57-year-old woman with a long history of Crohn's disease and short-bowel syndrome who had only 2 feet of small intestine remaining after 3 bowel resections. She was taking a daily multivitamin containing 400 IU of vitamin D(3) and was dependent on total parenteral nutrition that contained 200 IU of vitamin D and calcium (18 mEq in a 1-L bag infused over 8 hours daily) for a period of 36 months. Despite the above replacement, she complained of bone pain and muscle weakness, and she continued to be vitamin D-deficient with a 25(OH)D level <20 ng/mL. She was then exposed to ultraviolet B (UVB) radiation in a tanning bed wearing a 1-piece bathing suit for 10 minutes, 3 times a week for 6 months at the General Clinical Research Center, Boston University Medical Center. She tolerated the irradiation well without evidence of erythema. After 4 weeks, her serum 25(OH)D level increased by 357% from 7 to 32 ng/mL, parathyroid hormone level decreased by 52% from 92 to 44 pg/mL, and the serum calcium level increased from 7.8 to 8.5 mg/dL. After 6 months of UVB treatment, her serum 25(OH)D level was maintained in the normal range and was free of muscle weakness, and bone and muscle pain.

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