

Spontaneous bone fractures: an infrequently reported complication of severe osteoporosis in Cushing's disease

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PRESENTATION

A 69-year-old woman was diagnosed with an adrenocorticotrophic hormone (ACTH)-producing pituitary microadenoma. She underwent transsphenoidal surgery in 2009, but her hypercortisolism had only a mild improvement. After refusing bilateral adrenalectomy and radiotherapy, she was started on oral ketoconazole 600 mg/day. A month later, her urinary free cortisol decreased to 54 µg/24 hours and there was a mild clinical improvement. Osteoporosis was revealed on a dual-energy x-ray absorptiometry (DEXA) scan with a T score of -2.5 in the lumbar spine and -3.2 in femoral neck; however, we should consider that compression fractures

may falsely increase bone mineral density. Bone mass was persistently low despite aggressive treatment with zoledronic acid, raloxifene, calcitriol, and calcium carbonate.

In March 2011 she developed bilateral community acquired pneumonia and several cough-induced rib fractures and spontaneous vertebral fractures (Fig. 1, Panels A and B), consistent with persistent, long-standing, massive hypercortisolism. The patient was bedridden for several months due to the severe and intractable bone pain and finally died as a consequence of a massive pulmonary thromboembolism three years after the initial diagnosis. Secondary osteoporosis is a common feature of hypercortisolism; however, severe osteoporosis leading to spontaneous fractures has been the subject of a few

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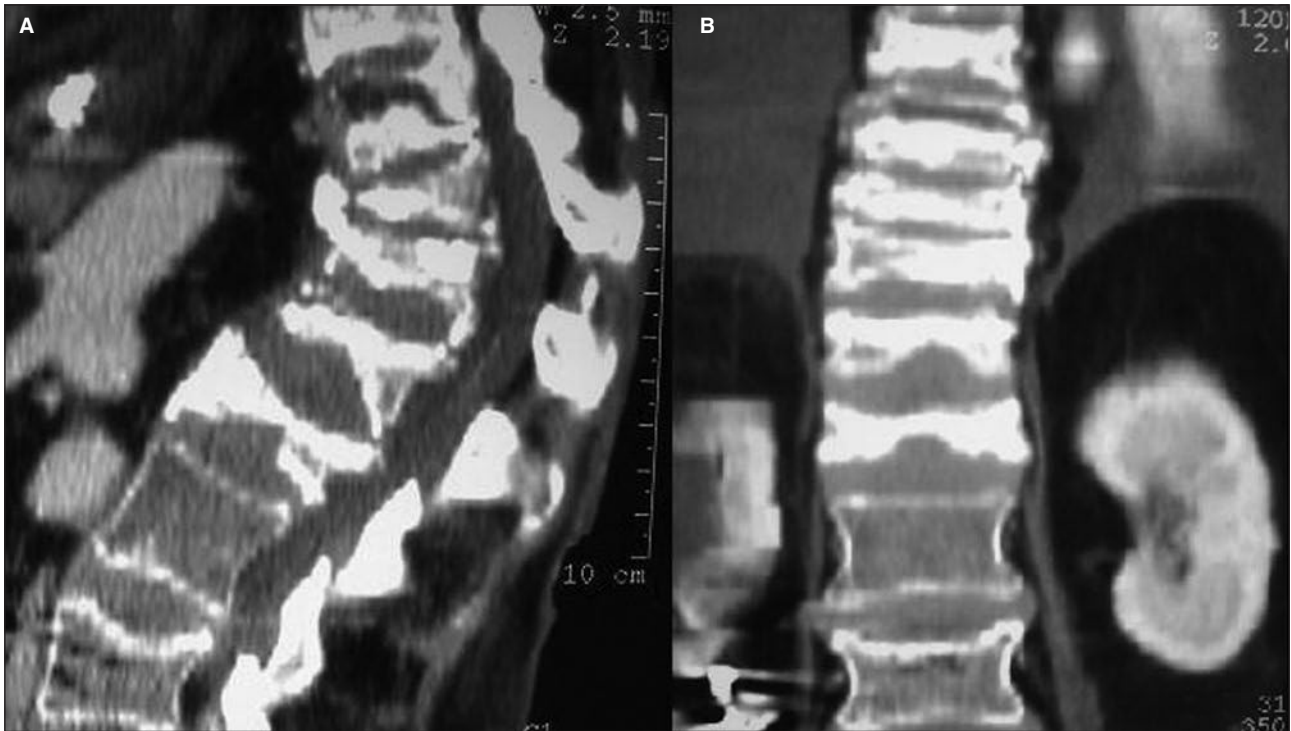


Figure 1. Computed tomography scan of the lumbar spine. Panel **A:** Sagittal view of lumbar spine. Panel **B:** Coronal view of lumbar spine.

case reports^{1,2}. Treatment for osteoporosis is important, but may be insufficient to treat patients with persistent hypercortisolism. Osteoporosis may also reduce the patients' quality of life and, in some extreme cases, it may be the cause of physical incapacity; therefore, aggressive management may be warranted.

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