Callus Formation in a Patient with Cushing’s Syndrome

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A 34-year-old woman was referred to hospital with bone pain, hypertension and diabetes mellitus. She had no history of trauma. Abdominal CT scans revealed a 2.5 cm adrenal tumor and plasma cortisol concentration was not suppressed (24.2 μg/dL) with an 8 mg overnight dexamethasone test. The diagnosis of Cushing’s syndrome was made. Regarding bone mineral density, L2-4 T score was -2.4 and osteocalcin was low (2.2 ng/mL) which are compatible with glucocorticoid-induced osteopenia. Chest X-ray examination and a three-dimensional computed tomography revealed multiple rib fractures and callus formations (Picture 1, 2). The patient underwent adrenalectomy and bone biopsy of the callus with pathology confirming adrenocortical adenoma and exuberant callus formation (Picture 3), respectively. Glucocorticoid-induced osteopenia is likely to cause rib fractures and exuberant callus formation at sites of healing fractures (1, 2). Hypercortisolism should be ruled out when evaluating patients with osteoporotic bone fracture with callus formations.

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