

Unraveling the cause of progressive height loss in a young man

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Abstract

Background: Glucocorticoid-induced osteoporosis (GIOP) remains the most common cause of secondary osteoporosis. Though GIOP commonly affects older populations, young subjects under supraphysiologic steroid therapy for prolonged periods can also experience rapid, catastrophic bone demineralization and debilitating fragility fractures. The aim was to present a case with common but devastating consequence of irrational use of steroids.

Case summary: A 25-year-old male presented with low back pain radiating to both legs and heel pain for about 6 years & progressive loss of height for the last 1 year. For that pain, he took several remedies, including steroids and homeopathic medications, for prolonged periods. On examination, he had a rounded, plethoric face, supraclavicular fullness, wide striae over the anterior abdominal wall and proximal muscle weakness. His blood pressure was 120/70 mmHg, height 164 cm, with an upper segment-to-lower segment ratio of 0.8. On investigation, Hb% 14.6 gm/dL, S. electrolytes normal, S. Creatinine 1.00 mg/dL, FBS 5.45 mmol/L, 2hABF 7.31 mmol/L, S. Calcium 8.80 mg/dL; S. Albumin 3.8 g/dl, 25-OH Vit D level 28.59 ng/mL; Basal cortisol 9.83 µg/dL; S. Testosterone 680 ng/dl, CPK 40 U/L; T4 8.22 µg/dL; TSH 0.76 µIU/L; Radiographs shows bilateral fibula fracture, partial collapse involving multiple lumbar vertebrae and bone densitometry showed osteoporosis (lowest Z score being -5.2). Considering history, examination and investigations, he was diagnosed with spondyloarthritis with iatrogenic Cushing syndrome with severe osteoporosis. Treatment started with Teriparatide 20 mcg subcutaneously daily and disease-modifying antirheumatic drugs.

Conclusion: GIOP is one of the most frequent causes of secondary osteoporosis, even in young subjects. Fractures may occur in 30-50% of patients on chronic steroid therapy. Steroids have a direct effect on bone, causing inhibition of bone formation and enhancing bone resorption. This bone loss is most pronounced in regions of the skeleton with abundant trabecular bone, such as the lumbar vertebrae, which may cause collapse of vertebral bodies, leading to height loss. Therefore, steroids must be prescribed by registered physicians and should be used rationally with appropriate dosage & duration. Moreover, while prescribing steroids for the long term, prophylactic measures should be taken to prevent osteoporosis and its grievous consequences. [*J Assoc Clin Endocrinol Diabetol Bangladesh, 2026;5(Suppl 1): S69*]

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