FRACTURE OF THE LEFT WRIST AS A POSSIBLE INDICATION OF CUSHING's DISEASE

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OBJECTIVES

Cushing's syndrome is a rare (0.004%) hormonal disorder, which develops due to hypercortisolemia. Cushing's disease refers to a corticotroph cell pituitary tumor overpowering adrenocorticotropic hormone (ACTH), which induces abnormally increased cortisol production from the adrenal glands. Cushing's disease is a causative factor of osteoporosis, hypertension, glucose intolerance and dyslipidemia.

METHODS

Case report: A 50-year-old woman was referred to our department for the investigation of osteoporosis. She reported a 2-year history of weight gain, hypertension and hair loss and currently a fracture of her left wrist. Reported age of menopause, 49 yrs. On physical examination her blood pressure was 140/90mmHg, she was overweight (BMI=25) and had bilateral supraclavicular fullness, buffalo hump, calf bruises and white striae on the abdomen.

RESULTS

Laboratory examination revealed shortened APTT, eosinopenia, increased fasting glucose, dyslipidemia, high-normal sodium levels (Na+=145.0mmol/L), mild hypokalemia (K+=3.4 mmol/L), hypercortisolemia (cortisol=754.0nmol/L, n.v.171.0-536.0), FSH=132.0mIU/ml, LH=36.9mIU/ml, ACTH=13.6pg/ml (n.v. 0-60), PTH=10.8 pmol/L (n.v. 1.58-6.03) and 24-hour urinary free cortisol = 436.4µg/dl (n.v.10.0-110.0).

Estimation of lumbar spine bone mineral density by dual-energy X-ray absorptiometry was diagnostic of osteoporosis (T score -3.3). The patient underwent dynamic investigation with dexamethasone-CRH combined (Dex-CRH) test, which indicated ACTH-dependent Cushing's disease.

MRI (3 Tesla) of the pituitary gland suggested the presence of a microadenoma. Bilateral inferior petrosal sinus sampling (IPSS) established the diagnosis of a microadenoma on the right anterior part of the pituitary gland.

Treatment was started with pasireotide 900µg bid.

CONCLUSIONS

Mortality in Cushing's disease is by 8-times higher than in the general population, especially when the disease is not fully controlled. Unfortunately, many disease-related complications such as hypertension, dyslipidemia and osteoporosis are not completely reversible when diagnosis is delayed. We suggest the diagnosis of Cushing's disease to be considered in the differential diagnosis of osteoporotic fractures or osteoporosis.