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CASE REPORTS

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A Case Study on Steroids Induced Cushing Syndrome and Its Management

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ABSTRACT

Cushing syndrome is characterised by elevated cortisol or other exogenous glucocorticoid levels in the blood. The most frequent cause of Cushing syndrome is prolonged use of exogenous gluco-corticoid hormones, particularly in the treatment of lymph proliferative diseases at levels of greater dosages. The side effects include Cushing's syndrome, cataract, hypertension, dyslipidemia, skin atrophy, failure to thrive, hypothalamopituitary- adrenal axis suppression, striae, glaucoma, and apropensity for life-threatening infections. The case study examines the classic effects of steroid. The patient or caregiver should be well informed of the risks involved with long-term steroid usage and the signs of steroid-induced disease.

Key word: Cushing's syndrome, insulin, glucocorticoid, side effect,

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INTRODUCTION

Cushing syndrome is characterised by elevated cortisol or other exogenous glucocorticoid levels in the blood. Due to either an adrenal tumour or the pituitary glands over secretion of adrenocorticotropic hormone, this can be endogenous or iatrogenic cortisol secretion. Depending on the origin of Cushing syndrome, the pathophysiological process varies. The most frequent cause of Cushing syndrome is prolonged use of exogenous gluco-corticoid hormones, particularly in the treatment of lymph proliferative diseases at levels of greater dosages. Long-term use of glucocorticoids is associated with a number of systemic side effects, including Cushing's syndrome, cataract, hypertension, dyslipidemia, skin atrophy, failure to thrive, hypothalamopituitary- adrenal axis suppression, striae, glaucoma, and apropensity for life-threateninginfections.[1]

CASE STUDY:

A 45 Year old male patient was admitted in Hospital with the chief complaints of moon face,

backache, swelling of limbs, abdominal distension and muscle weakness since 1 weeks. He was taking OTC medication for body pain since for the past 10 years along with analgesic and steroids (Dexamethasone and Tramadol). The patient was conscious and well oriented to time and place but on physical appearance was looking weak and his vitals were as follows BP-100/70 mm/Hg, PR-87 bpm, CVSS1, S2+ ,RS –NVBS +VE, CNS- no abnormality present, P/A distension+ The laboratory investigations shows that the patients had elevated fasting blood glucose level (190 mg/dl), serum triglyceride levels are elevated to 443.10 mg/dl PR-87 bpm, CVS-S1,S2+ ,RS –NVBS +VE, CNS- no abnormality present, P/A distension+ The laboratory investigations shows that the patients had elevated fasting blood glucose level (190 mg/dl), serum triglyceride levels are elevated to 443.10 mg/dl So based on subjective and objective evidence, the patient is provisionally diagnosed as having Cushing syndrome due to the chronic use of dexamethasone. Due to lack of laboratory facilities the patient was transferred to Higher Treatment Centre for further investigation regarding serum cortisol levels and further follow up. The patient was treated with insulin, antibiotics, and anti-ulcer drugs. According to these data, the patient was given a tentative diagnosis of exogenous Cushing's syndrome because of long-term steroid The patient was provisionally diagnosed with exogenous Cushing's syndrome due to chronic steroid usage based on this data.

DISCUSSION

Cushing syndrome may result from external factors like exogenous corticosteroid injection as well as endogenous factors such ectopic adrenocorticotropic hormone (ACTH) production, pituitary tumour, and others. Exogenous Cushing's syndrome is a disorder brought on by prolonged therapeutic corticosteroid therapy. They are sometimes referred to as iatrogenic Cushing syndrome or Cushing's syndrome caused by steroids.[1]Patients with Cushing's disease often exhibit one or more signs and symptoms because of having too much cortisol or ACTH in their bodies.[2]In exogenous Cushing's syndrome, blood cortisol levels are low unless the patient is taking a corticosteroid. Most Cushing syndrome patients have a round, red, full moon face, growth retardation in children, fat accumulation on the trunk with weight gain, fat loss from the buttocks, legs, and arms (central obesity), skin infections, purple marks (striae) on the skin of the breast, abdomen, and thighs, thin skin with easy bruising, backache while performing daily activities, fat deposit between the shoulders and above the collar bone, hips and shoulder muscle weakness, and frown lines. A lack of response to an ACTH stimulation test, low ACTH levels, raised fasting blood sugar levels, decreased serum potassium levels, decreased bone density, elevated blood cholesterol levels, etc. are frequent laboratory results in Cushing syndrome. Corticosteroid doses are tapered off during treatment, which might take a full year. Adrenal crisis may occur if corticosteroids are abruptly stopped after long-term use. Atrophy of the adrenal glands can be reversed by gradually reducing the corticosteroid causing Cushing syndrome.[3]In clinical practise, glucocorticoids are often used to treat a range of autoimmune, inflammatory, and allergy illnesses. Especially in long-term treatments, irrational glucocorticoid dosage can have a variety of negative consequences, including suppression of the hypothalamic-pituitary-adrenal axis, Cushing’s syndrome, an increased risk of infections, and changes in mental state. The therapeutic and harmful effects of glucocorticoids are influenced by their pharmacokinetic features, individual differences in steroid metabolism, daily dose, and length of therapy.[4]Patients should be well-informed about the potential negative effects of steroids prior to beginning steroid therapy. If not, it might result in serious systemic side effects as Cushing’s syndrome, hypertension, dyslipidaemia, suppression of the hypothalamic-pituitary-adrenal axis, striae, glaucoma, skin atrophy, cataract, and a propensity for potentially fatal infections.[5]

Conclusion:

The primary cause of Cushing syndrome is prolonged usage of synthetic corticosteroids like prednisolone. The patient or caregiver should be well informed of the risks involved with long-term steroid usage and the signs of steroid-induced disease. To evaluate the impact of steroids on the body, the patient should have regular check-ups with the doctor.

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