

Steroid therapy: a double edged sword

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ABSTRACT

Steroid medications are lifesaving and improve debilitated states as well as have proved efficacious in umpteen number of disease conditions. It can prove to be a treacherous when used chronically exerting its action in the Hypothalamo-pituitary axis as well as systemic side effects mainly on the skeletal and integumentary system. Here we would like to illustrate regarding a patient who came to neurology OPD with relatively common presentation with interestingly uncommon etiology.

Key words – Steroid Myopathy, Oral steroids, Chronic Obstructive Pulmonary Disease.

Sir,

Steroid medications are often lifesaving and definitely help in improving debilitated states as well as have proved efficacious in umpteen number of disease conditions(1). It can be a loyal servant when used short term but can prove to be a treacherous master when used chronically acting as a double edged sword. Here we would like to illustrate regarding a patient who came to neurology OPD with relatively common presentation with interestingly uncommon etiology(2).

Professor H, a 42 year old mathematics college teacher is a chronic asthmatic since childhood with a strong family history of allergy and asthma. He was regularly on oral steroids for past 22 years. He had developed pulmonary TB 20 years back for which he had completed treatment. Since past 3 years he developed diffuse bone pains with calf and leg pain and since past 1^{1/2} years was not able to get up from squatting position, climb stairs and later developed difficulty in lifting his hand overhead while writing on the blackboard. Subsequently since past 6 months he had decreased appetite, repeated vomiting and intermittent fever for which he was evaluated in local hospital with no improvement on treatment. He also sustained fracture dislocation of the right shoulder which was treated surgically 6 months back when he was helped up by a relative while getting up from the floor. The proximal weakness gradually progressed.

Clinical examination revealed skin changes in terms of mild pallor, multiple bruises, and brittle, dystrophic pigmented nails. Pedal edema and postural hypotension was also present. Respiratory and Cardiovascular system workup came to be normal. CNS examination revealed the

patient to be depressed, with fine nystagmus present on bilateral lateral gaze. Wasting of the neck muscles, trapezius, supra and infra spinatus, pectoralis, biceps, quadriceps and gluteal muscles seen with no fasciculations. Muscle power was reduced in proximal upper and lower limbs with no evidence of pseudohypertrophy or selectivity. Cranio bulbar and respiratory muscles were normal. Patient also had 20% decreased sensory appreciation for all stimuli below ankle. Ankle jerk was also not elicited.

Laboratory investigations revealed macrocytic normochromic anemia with raised ESR of 77mm/1st hr. Renal and liver function tests, creatine kinase, serum electrolytes and TB workup turned out to be normal. EMG was suggestive of myopathic pattern. Serum Cortisol at 6am was 0.42mcg/dl(optimal range 18-35mcg/dl) and 6pm was 0.51mcg/dl(optimal range 4-8mcg/dl) which was drastically low. Patient was diagnosed provisionally to have features consistent with adrenal crisis and was managed intensively with parenteral hydrocortisone followed by oral hydrocortisone and other supportive measures under specialist supervision. To stimulate chronically suppressed adrenals, parenteral ACTH 20 mcg in morning and 10mcg in evening was started. For his steroid myopathy replacement of calcium with vitamin D₃ along with Potassium and protein supplements was started.(3)(4) Patient showed dramatic improvement in 72 hours but since his cortisol was in dangerously low levels, steroid were continued in optimized doses and planned to be tapered after normalizing of cortisol levels. Patient was thus diagnosed have steroid induced progressive limb girdle myopathy in Adrenal crisis(5). This enumerates the importance of adverse effects of unmonitored chronic steroid abuse. Since there are myriad diseases which respond to steroids thus making it a 'shotgun' medicine for most ailments making it a common "over the counter drug", the potential adverse effects needs to be noted. This case also throws light into the fact that primary physicians should be able to identify these situations early enough so that prompt treatment and specialist care for the life threatening condition can be initiated and lives saved. The role of endocrine specialist care cannot be afforded to be avoided.

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