

Available online on 15.08.2019 at <http://jddtonline.info>

## Journal of Drug Delivery and Therapeutics

Open Access to Pharmaceutical and Medical Research

© 2011-18, publisher and licensee JDDT, This is an Open Access article which permits unrestricted non-commercial use, provided the original work is properly cited

Open  Access

Case Report

### Case Report on Steroid Induced Cushing Syndrome

Shaik Salma\*

6<sup>th</sup> Year Pharm. D, Ratnam Institute of Pharmacy, Pidathapalur (V), Muthukur (M), Nellore-524 346, Andhra Pradesh, India.

#### ABSTRACT

Glucocorticoids are the effective steroid drugs which reduce the inflammation & most commonly glucocorticoids are used in diseases such as asthma, allergic diseases such as psoriasis, eczema and rheumatoid arthritis. Long term effect of corticosteroids leads to the symptoms of moon face, buffalo hump, pink stretch marks, and weight gain. In this we are going to report a case of 30 yrs female patient with representing the long term use of corticosteroids; Prednisolone leads to cushing syndrome. Eventually she was treated with oral hypoglycemics and diuretics and the use of steroid had stopped temporarily and the dose of prednisolone was tapered.

**Keywords:** glucocorticoids, prednisolone, Cushing syndrome

**Article Info:** Received 07 June 2019; Review Completed 16 July 2019; Accepted 23 July 2019; Available online 15 August 2019



#### Cite this article as:

Shaik Salma, Case Report on Steroid Induced Cushing Syndrome Journal of Drug Delivery and Therapeutics. 2019; 9(4-s):598-600 <http://dx.doi.org/10.22270/jddt.v9i4-s.3269>

#### \*Address for Correspondence:

Shaik Salma, 6<sup>th</sup> Year Pharm. D, Ratnam Institute of Pharmacy, Pidathapalur (V), Muthukur (M), Nellore-524 346, Andhra Pradesh, India.

#### Background:

Cushing syndrome is one of the rare condition experienced by many people with of the conditions of puffy face, protruded eyes, buffalo hump and some other people experienced with morbidities such as diabetes mellitus, hypertension [1], hypothyroidism, hypothyroidism in general particularly in females pelvic inflammatory disease, polycystic ovarian syndrome along with the conditions which are mentioned above [2]. Cushing syndrome mainly targets above the pituitary gland of adenocorticotrophic hormone (ACTH) which triggers and increases the levels of cortisol. Most of the conditions comparing to cushing syndrome triggers other conditions and symptoms such as weight gain, loss of appetite, puffy face, protruded eyes, hypothyroidism and buffalo hump. Prolonged use of corticosteroids causes cushing syndrome [3]. The average incidence of newly diagnosed cases was 24 cases per million per year. Cushing`s disease was more frequent in women (n=46) than in men (n=3) with a ratio 15:1, Remission cushing disease was achieved in 36 out of 41 patients (87.5%). Here we represent a case of steroids induced cushing syndrome.

#### Case Report:

A 30 yrs old female patient presented in the general medicine department with a episode of fever since 2 days vomiting of one episode and joint pains .there was unintentional weight gain with puffy face [4]. The patient was

found to be very weak; she was anaemic with shortness o f breath and present complaints of cough and pedal edema. Her past medical history was a known case of systemic lupus erythematous since 10 yrs along with her past medication history of following drugs along with their respective doses namely prednisolone 80mg ibuprofen 400mg and methotrexate 20mg according to their frequencies; her family history was unremarkable with no cushing syndrome. On present day when she was admitted in the medical ward her temperature was found to be 101° F and two episodes of vomiting and severe muscular pain unable to walk for some while her blood pressure was found to be 100/80mm of hg on physical examination; pulse rate is 92 bpm, edema was present towards the legs and protruded eyes, slightly buffalo hump, moon face [5]. On systemic examination; CVS :s1s2+ ,RS:B/AE+, CNS: NAD ( no abnormality detected). For the present complaints and conditions, based on the vitals she was treated with antipyretics and analgesics, antiemetics and diuretics .on day one based on the complaints the physician prescribed the drug paracetamol 500 mg intravenously twice a day, ondansetron 4m g intravenously once a day, salbutamol 2mg intravenously once a day, furosemide 40 mg intravenously twice a day, tablet serratiopeptidase 10 mg only once a day. On day 2 patients had undergone some following laboratory tests along with that, she is conscious and coherent, decreased fever, no episode of vomiting, but the remaining complaints found to be similar, no improvement in her, physician advised to continue the same treatment. Her initial

laboratory studies revealed that AST ( 122IU/L) her haemoglobin was found to be 3.4gm/dl was very low (normal level : 14 -16 gms/dl) serum potassium level was decreased 3.7 mmol/L platelet count was 1,00,000 LKS (normal level :1,00,00- 4,00,000LKS)her random blood sugar was found to be 180 mg /dl (normal < 160 -200mg /dl) , fasting blood sugar was found to be 180 mg/dl (normal level < 100mg/dl ) and her serum cortisol levels was increased - 33.4 mcg /dl .(normal 10-20mcg/dl). On day 3 physician observed the all investigations which undergone by the patient and he advised the following drugs such as metformin 500mg twice daily, injection furosemide 40mg intravenously twice day, tablet serratiopeptidase 10mg once a day, injection multivitamin in one bottle of normal saline should be given intravenously twice a day to treat the cortisol levels there was no stock and availability in the hospital at the time and a packet of platelet transfusion is done [6]. The treatment is going on thorough monitoring cortisol levels, but there is no change the physical appearance day by day the progress of her shows that moon face and buffalo hump, protruded eyes and weak facial expression with shortness of breath. A case of Cushing syndrome due to steroid administration, showing anemic tongue of 30 year - female admitted to the hospital as shown in figure 02. By all the complaints and prognosis, laboratory investigations mainly serum cortisol levels, subjective and objective evaluation, so for the early and final diagnosis approaches we tried to diagnosed as Cushing syndrome, symptoms.

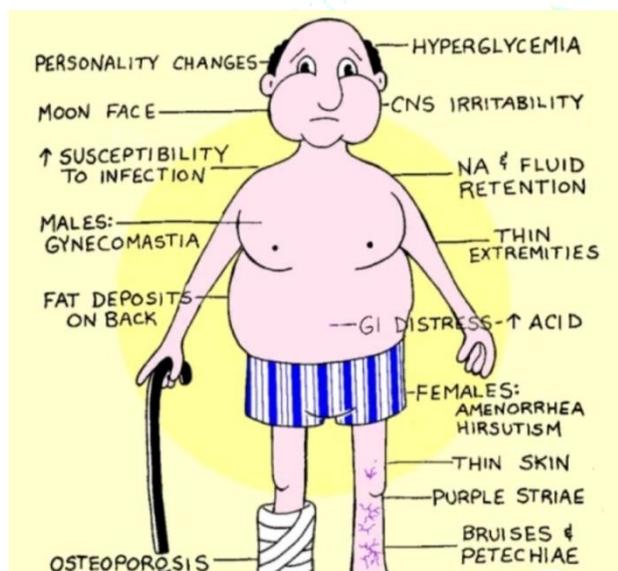


Figure 01: Symptoms of Cushing syndrome

### Discussion:

Cushing syndrome is a life threatening condition if not treated it is a manifestation of hypercortisolism in this case report, a woman without a history of hypercortisolism and hyperglycemia, severe muscular pain, weight gain, O/E moon face, buffalo hump and with some other complaints came to the medicine department. Classical symptoms of cushing syndrome shows that weight gain, fatty tissue deposits, particularly around the mid section and upper back, in the face (moon face), and between the shoulders (buffalo hump) as shown in figure 03 pink or purple stretch marks, here main complaint of the patient is weight gain and moon face and puffy face is the main symptom of cushing syndrome which is accompanied by muscular pain and joint pains. While coming to the complications of cushing syndrome such as high blood pressure, diabetes mellitus,

osteoporosis, increased risk of stroke, excess clotting of blood, increased or unusual infections, here in this case report rules out the diabetes, slight risk of osteoporosis and anemia. The long term side effects of cushing syndrome osteoporosis, hypertension, diabetes, weight gain, thinning of skin, increased vulnerability to infection, cataracts and glaucoma and cushing syndrome [7]. Here in this report patient experienced main condition came in progress there are diabetes mellitus, slightly osteoporosis, weight gain, cushing syndrome are shown in figure 01. Here finally we are saying that the long term use of corticosteroids results in the following diseases or conditions such as cushing syndrome, diabetes mellitus, weight gain [8] at last for the patient physician advised her to stop the usage of steroids, physician prescribed the altered medicines [9] and patient counselling was done and along with this vitamin supplements, calcium supplements, hypoglycaemic, diuretics.



Figure 02: A case of Cushing syndrome due to steroid administration, showing anemic tongue of 30 year - female admitted to the hospital.

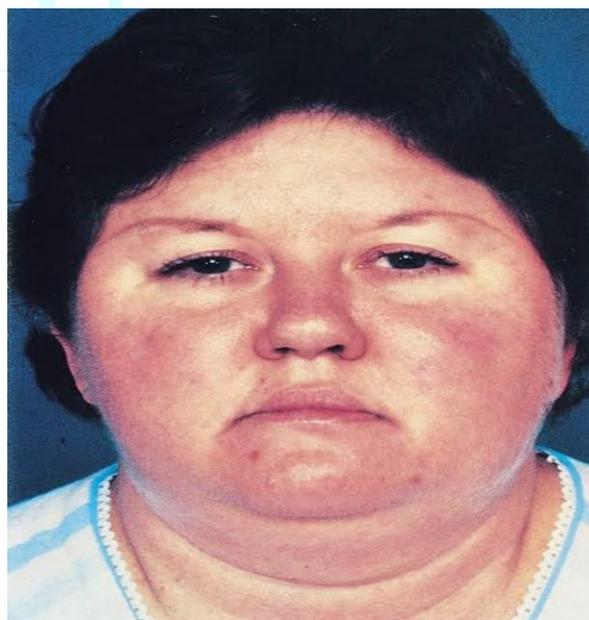


Figure 03: 30 year's female showing moon face

**Conclusion:**

Early recognition of steroid induced Cushing syndrome helps in reducing the morbidity and mortality. If not treated Cushing syndrome may leads to the more complications and leads to survive heavily.

**References:**

1. Siddarama R, Reddy YH, Reddy GA. A case report on steroid induced Cushing syndrome and NSAID induced bronchial asthma. IAJPR. 2015;5(4):1404-07.
2. Kirk LF, Hash RB. Cushing's disease: Clinical Manifestations and Diagnostic Evaluation. Am Fam Physician. 2000; 62(5):1119-27.
3. Wisse B, Zieve D, Black B. Cushing syndrome – exogenous. US national library of medicine. American Accreditation HealthCare Commission.
4. Romanholi DJ, Salqadol LR. Arq Bras Endocrinol Metabol. 2007;51(8):1280-92.
5. West DP, Micali G. Principles of pediatric dermatological therapy. In: Harper J, Oranje A, Prose N, editors. Textbook of Pediatric Dermatology. 1st ed. London: Blackwell Science Ltd. 2000; 1731-42.
6. Siklar Z, Bostancı I, Atli Ö, Dallar Y. An infantile Cushing syndrome due to misuse of topical steroid. Pediatr Dermatol 2004; 21:561-3.
7. West DP, Micali G. Principles of paediatric dermatological therapy. In: Harper J, Oranje A, Prose N, editors. Textbook of Pediatric Dermatology. 1st ed. London, Blackwell Science Ltd; 2000. p. 1731-42.
8. Bathala Anitha, S. Malavika, B. Kumar, Yerikala Ramesh, Current trends in drugs avoided in pregnancy, Journal of Drug Delivery & Therapeutics. 2018; 8(6):342-350
9. Bertrand J, Saez JM. Adrenal steroids: Biochemistry and physiology. In: Bertrand J, Rappaport R, Sizonenko PC, editors. Pediatric endocrinology. 2nd ed. Baltimore: Williams and Wilkins; 1993. p. 283-304.

Journal of Drug Delivery & Therapeutics



JDDT