LETTER TO EDITOR (VIEWERS CHOICE)

IATROGENIC CUSHING'S SYNDROME IN A CHILD FOLLOWING TOPICAL OCULAR STEROID THERAPY

Suneel Mundkur, Sandeep Kumar, Shrikiran Aroor, Maneesh Kumar

Keywords : Topical steroid, Cushing syndrome, Ocular steroid

Iatrogenic Cushing's syndrome usually follows prolonged administration of systemic glucocorticoids. However though rare it may also occur following prolonged use of topical corticosteroids particularly in children. Iatrogenic Cushing's syndrome secondary to topical ocular steroids is very rare and to the best of our knowledge, only five cases have been reported in pediatric age group till date. (1-5)

A 4 year old girl presented to us with history of increased appetite and recent weight gain (2 kg in 1month). She was seen by an ophthalmologist 2 months back for vision problem and was diagnosed to have bilateral zonular cataract. She underwent bilateral lens aspiration and anterior vitrectomy with posterior chamber intraocular lens implantation. Dexamethasone eye drops (0.1%) was prescribed every 3 hour for next 2 weeks and parents were instructed to review. However by default parents had continued the eye drops application and returned for follow up after 8 weeks. There was no history of intake of any oral medication. Examination revealed cushingoid habitus with a blood pressure of 110/70 mmHg (on 95th centile for age, height and sex). Serum cortisol level was extremely low (0.062 mcg/dl). Biochemical parameters including blood glucose were normal. Steroid eye drops were gradually tapered over next 4 weeks and stopped. Parents were advised regarding the need for stress doses of steroids during acute illnesses if any for next few weeks. At follow up after three months her cushingoid habitus had subsided with loss of 2 kg body weight and her blood pressure had returned to a level below 95th centile (106/64 mmHg).

Glucocorticoids due to their striking anti-inflammatory and immunosuppressive action are one of the most widely used medications in clinical practice. Topical steroid preparations have been formulated to reduce systemic steroid toxicity. These include inhalational, intra-articular, cutaneous and ocular preparations. Common indications for topical ocular steroids include allergic conjunctivitis, keratitis, uveitis and post surgical inflammation. (6) Ocular penetration of eye drops depends upon drug concentration, chemical formulation and composition of the vehicle. (1) Occluding the nasolacrimal duct for 60 seconds following instillation of eye drops is beneficial as it minimizes systemic absorption through nasal mucosa. Other strategies to reduce systemic toxicity include, using the lowest available concentration and limited number of doses of the topical agent. (2-4) Ocular steroid preparations available in India include dexamethasone (0.1%, 0.01%), betamethasone (0.1%), prednisolone (0.1%, 1%) and hydrocortisone (1%). In one case study reported, high concentration dexamethasone (2%) eye drops were applied for 6 months. (5) However, relatively lower concentration of dexamethasone (0.1%) was prescribed in our case for duration of 8 weeks.

Hence though systemic toxicity with ocular steroids is rarely encountered in clinical practice, it should always be kept in mind and all such patients should be closely monitored.

Funding: None.

Conflict of interest: None.

Contributors: SA managed the case and reviewed literature and wrote the paper. SK and MK helped in collecting data and literature review. SM critically reviewed and finalized the article.

Acknowledgement: None

References :

1. Ozerdem U, Levi L, Cheng L, Song MK, Scher C, Freeman WR.. Systemic toxicity of topical and periocular corticosteroid therapy in an 11-year-old male with posterior uveitis. Am J Ophthalmol 2000; 130: 240–241.
2. Steelman J, Kappy M. Adrenal suppression and growth retardation from ocular corticosteroids. J Pediatr Ophthalmol Strabismus 2001; 38: 177–178.
3. Verma N, Jain V. Iatrogenic cushing syndrome. Indian Pediatr. 2012; 49: 765
4. Chiang MY, Sarkar M, Koppens JM, Milles J, Shah P.. Exogenous Cushing's syndrome and topical ocular steroids. Eye 2006; 20: 725–727
5. Messina MF, Valenzise M, Aversa S, Arrigo T, De Luca F. Iatrogenic Cushing syndrome caused by ocularglucocorticoids in a child. BMJ Case Reports 2009.
6. Claudia Gray. Systemic toxicity with topical ophthalmic medications in children. Paed Perinat Drug Ther 2006; 7: 23–29

From: Department of Pediatrics, Kasturba Medical College, Manipal University, Manipal, India.

Address for Correspondence: Dr Sandeep Kumar, Department of Paediatrics, Kasturba Medical College, Manipal University, Manipal, Karnataka, 576104, India.

Email : bksandydoc@gmail.com

DOI : 10.7199/ped.oncall.2014.38

Quick Response Code