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Case Report

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Iatrogenic Cushing Syndrome in a Child Mimicking Michelin Tire-Baby Syndrome

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Abstract

Observation: İatrogenic Cushing syndrome is caused by prolonged exogenous administration of glucocorticoid hormones. Long term use of topical corticosteroids, especially in children, may cause Cushing syndrome and suppression of the hypothalamopituitory-adrenal axis, which is less common than that of oral or parenteral usage. Michelin tire baby is a rare genetic disease characterized by generalized skin folding. At birth, circumferential skin fold is a rare sign. In patients one or few folds around the limbs may exist and these folds revealed amniotic band constrictions. . We report this case to highlight that iatrogenic Cushing syndrome in a child can mimic Michelin Tire-Baby syndrome.

Introduction

Cushing syndrome is a hormonal disorder with abnormally high blood level of cortisol. The frequent cause is prolonged exogenous administration of glucocorticoid hormones and named as iatrogenic Cushing syndrome. Long term use of topical corticosteroids, especially in children, may cause Cushing syndrome and suppression of the hypothalamopituitory-adrenal axis, which is less common than that of oral or parenteral usage. Really, iatrogenic Cushing syndrome in the infantile age group due to topical steroid is very rare and only a few patients have been reported to date in the literature [**1,2**]. Michelin Tire-Baby syndrome were first reported by Ross in 1969 [**3**]. Michelin Tire-Baby is a rare genetic disease characterized by generalized skin folding. At birth, circumferential skin fold is a rare sign. In patients one or few folds around the limbs may exist and these folds revealed amniotic band constrictions. In some cases, multiple, symmetric, ring-like skin folds may be examined [**4**].

Case Report

A 9-month-old girl represented to our dermatology clinic with tachypnea, weakness and nutritional deficiency. Examination revealed facial puffiness (moon facies), depressed nasal root, oral moniliasis, hypertrichosis over forehead and back, stria in legs, erythematous and scaly patches over face, trunk and extremities (**Figures 1 and 2**). In addition, bilaterally symmetrical, deep gyrate skin folds were noticed on her limbs. She had also valgus deformity in her right foot (**Figure 3**). This child was given methylprednisolone tablet and topical clobetasol propionate ointment for 10 weeks. Therapy was conducted by a private doctor for atopic eczema.

Figure 1. Facial puffiness (moon facies), depressed nasal root, oral moniliasis, hypertrichosis over forehead and back

Figure 2. Erythematous and scaly patches over face, trunk and extremities

For differential diagnosis; immunodeficiency statuses, metabolic disorders were searched. Facial dimorphisms, hypertrichosis and deep gyrate skin folds gave rise to thought Michelin Tire Baby Syndrome. However, laboratory features of iatrogenic Cushing syndrome with critical adrenal suppression were observed. Serum cortisol at presentation was 1,9ug/dl. Also, rickets was diagnosed, with radiography of bones, low vitamin and high levels parathormone. She administered to the Pediatric Intensive Care Unit with diagnosis of pneumonia.

Discussion

Systemic adverse effects of topical corticosteroids including Cushing syndrome and hypothalamic-pituitary-adrenal axis suppression is less common than oral or parenteral usage of corticosteroids. A review [**2**], investigated 43 cases with iatrogenic Cushing syndrome from very potent topical steroid usage (clobetasol) in children and adult. In 22 cases of children included mostly infants with diaper dermatitis. Adult group consisted of 21 cases, the most common disease was psoriasis for long term usage of topical steroids. In our case, the purpose was to treat atopic dermatitis in a 9 months-old girl. The duration of disease was about six months and quick developing Cushing syndrome may be related with both top ical and systemic corticosteroid administration.

Figure 3. Valgus deformity in the right foot

In our patient, we examined bilaterally symmetrical, deep gyrate skin folds on her arms. Together with some distinct features like, valgus deformity and facial dimorphism we thought Michelin Tire Baby Syndrome in differential diagnosis. However, laboratory features and medical history revealed Cushing syndrome. Michelin tire baby syndrome may present multiple facial dimorphisms consisted of low set ears, hypoplasia of teeth and mandible, cleft lip, cleft palate, bilateral epicanthic folds. Also, systemic anomalies such as developmental delay, seizures, congenital heart disease, and undescended testis with abnormal histology, have been reported in different studies [**4-5**].

We report this case as to attract attention to the iatrogenic Cushing syndrome in a very young child. Also to remember the mimicking clinical features of Michelin Tire Baby syndrome as a very rare syndrome.

References

1. Tiwari A, Goel M, Pal P, Gohiya P. Topical-steroid-induced iatrogenic Cushing syndrome in the pediatric age group: A rare case report. Indian J Endocrinol Metab 2013; 17: 257-258. PMID: 24251179

2. Tempark T, Phatarakijnirund V, Chatproedprai S, Watcharasindhu S, Supornsilchai V, Wananukul S. Exogenous Cushing syndrome due to topical corticosteroid application: case report and review literature. Endocrine 2010; 38: 328-334. PMID:20972726

3. Ross CM. Generalized folded skin with an underlying lipomatosis nevus. The Michelin Tire Baby. Arch Dermatol 1969; 100: 320–323. PMID:4980758

4. Farooqi GA, Mulla SA, Ahmad M. Michelin tire baby syndrome--a case report and literature review. J Pak Med Assoc 2010; 60: 777-779. PMID:21381593

5. Kunze J, Riehm H. A new genetic disorder: autosomaldominant multiple benign ring-shaped skin creases. Eur J Pediatr 1982; 138: 301–303. PMID: 7128636