

Cornelia de Lange syndrome and psoriasis: Report of a case

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ABSTRACT

Cornelia de Lange syndrome was first reported in 1916 and it is characterized by growth deficiency, psychomotor delay and unique facial expression. Its incidence is 1:45.000 live births, being an infrequently reported entity. We present the case of a 15 years old girl with Cornelia de Lange syndrome associated with Psoriasis.

Key words: Cornelia de Lange; Psoriasis; Syndrome

INTRODUCTION

Cornelia de Lange syndrome is a multi systemic disease, first reported in 1933 by Cornelia Catharina de Lange, who described two cases and named it "typus degenerativus amstelodamensis". A similar case was described in 1916 by Winfred Brachmann, and then renamed it as "Brachmann-deLange syndrome". It is characterized by growth deficiency and psychomotor delay, feeding and behavioral difficulties [1,2].

The incidence is variable, ranging from 1:10.000 to 1:30.000 live births. Some cases are sporadic, related to genes SMC1A, SMC3, RAD21 and HDAC8 on chromosome X, but also some of them are autosomic dominant, related to gene NIPBL on chromosome 5, responsible for 50% of the cases. This syndrome has a wide spectrum of manifestations that includes neurological, endocrinological, muscle-skeletal and cutaneous abnormalities [2].

CASE REPORT

A 15 years old female patient, with Cornelia de Lange syndrome, presents since 9 years old relapsing erythematous descamative plaques, some of them with a circinate or nummular pattern, disseminated

but more intense in trunk and extremities, with severe pruritus (Figs. 1 and 2). The girl's mother referred that she presented at birth low weight, congenital heart disease (paten foramen oval presumed due to its spontaneous closure), seizures and hip dislocation, that led to the diagnosis of Cornelia de Lange syndrome.

In the physical exam, we noticed weak cry, psychomotor delay, short stature, synophrys, low hairline, hirsutism, down-turned angles of the mouth, low-set ears, and muscle-skeletal abnormalities (Fig. 3). A histopathological diagnosis of psoriasis was made, as we examined our therapeutic options. Treatment with topical clobetazol and coal tar was established showing complete resolution of the lesions after one month of treatment (Fig. 4).

DISCUSSION

Cornelia de Lange syndrome (CdLS) is also known as Brachmann de Lange syndrome, it's characterized by a wide phenotypical spectrum, which makes it easy to diagnosis, although some cases remained undiagnosed years after birth [2]. The genes implicated in its pathophysiology are SMC1A, SMC3, RAD21 and HDAC8 that codify proteins of the cohesine complex [3].

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Figure 1: Disseminated erythematous desquamative plaques in the trunk.



Figure 3: Facial features as synophrys, depressed nasal bridge, down-turned angles of the mouth, low hairline, low-set ears.



Figure 2: Disseminated erythematous desquamative plaques in the legs.



Figure 4: 1 month after treatment.

These patients are characterized by short stature, and psychomotor delay. Mean stature for men is 156 cm and 131 cm for women. Some cases present central obesity. Multiple associations have been described, including gastrointestinal abnormalities, as gastroesophageal reflux between the most common [4]. Other alterations may be present including ophthalmologic, cardiovascular, and urinary [5,6].

Facial features include hirsutism, synophrys, long and thick eyelashes, low-set ears, broad nasal bridge, thin superior lip, down-turned angles of the mouth, and micrognathia [7,8]. Hirsutism is a common feature, although some patients present alopecia. Cutis marmorata and cutis verticis gyrata have been described [5]. Xerosis and hypoplastic borders of the fingers are observed, the latter often leading to erasure of finger prints [8-10]. According to its phenotypic expression, CdLS can be classified in three groups

(Table 1); mild, moderate and severe disease, due to the extremities, growth and psychomotor affection [11-13].

Another classification divides it in [1]:

1. Classical phenotype: Characteristic facial and skeletal changes.
2. Mild phenotype: Mild characteristic facial and skeletal changes.
3. CdLS-like: Similar phenotypic expression but related to chromosomal or teratogenic affections.

Diagnosis is made when [1]:

1. Positive affected gene
2. Facial features and two growth, developmental or behavioral criteria
3. Facial features and, one growth, developmental or behavioral criteria, and two additional criteria.

A severity score system has been established, that includes physical and psychomotor development, which

Table 1: Classification of Cornelia de Lange syndrome according phenotypic characteristics (Adapted from Gillis *et al.*, 2004)

Parameters	Mild	Moderate	Severe
Limb reduction	No reduction defect	Partial defect (>2 digits on each hand)	Severe defect (<2 digits)
Development and cognitive abilities	Motor milestones <2 years delayed; speech and communication skills present	Motor milestones >2 years delayed; limited speech and communication	Profound delay in motor milestones; lack of meaningful communication
Growth*	>75 th percentile	25 th -75 th	<25 th percentile

*Average of percentiles for weight, height, and head circumference, plotted on CdLS standard growth curves

Table 2: Severity score system (Kline)

Parameters	1 points	3 points	5 points
Low weight at birth	>2.500gr	2.000-2.500gr	<2.000gr
Sits alone	Before 9 months old	9-20 months old	After 20 months old
Walks alone	Before 18 months old	18-42 months old	After 42 months old
First words	Before 24 months old	24-48 months old	After 48 months old
Upper limb malformation	No defect	Partial defect (>2 digits)	Severe defect (<2 digits)
Other malformations	0-1	2-3	>3
Hearing loss	Absent	Mild	Moderate-severe

divides them according to its classification in severe involvement (>22 points), moderate involvement (15-22 points), mild involvement (<15 points) (Table 2) [14]. Our patient score was 25 points.

Several case reports have associated CdLS with other pathologies, although dermatologic associations are infrequently reported. In the literature at our disposal we found an association with rosacea in a 16 years old female [15], and Uleritema Ofriogenes in a 17 years old female [16]. Our patient represents the second case of CdLS associated with psoriasis [17].

CONCLUSION

Although psoriasis is a well known and commonly reported disease, its incidence in CdLS is extremely low. This association is very rare, to the best of our knowledge; there is only one previous report in a Pakistani girl. Our case represents a therapeutic challenge due to the limited options available for this specific case. We had a rapid response with only topic corticoids and coal tar.

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