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Letter to the Editor

PERIODONAL EHLERS-DANLOS SYNDROME: AN EMERGING GENODERMOTOSIS AFFECTING THE ORAL CAVITY

D. De Falco[1*], S. Messina[2] and M. Scivetti[1]

[1]Independent researcher, 70126 Bari, Italy;
[2]Interdisciplinary Department of Medicine, University of Bari, Bari, Italy;

**Correspondence to*:
Domenico De Falco

Independent researcher, 70126 Bari, Italy
e-mail: defalcodomenico@gmail.com

ABSTRACT

Ehlers-Danlos syndrome is an autosomal dominantly inherited genodermatosis. This syndrome has several subtypes, including a periodontal form of Ehlers-Danlos Syndrome (pEDS). The clinical manifestations of pEDS can affect various districts and systems of the body, but oral manifestations are the most frequently encountered. Periodontal lesions are very severe, and young patients tend to lose their teeth early.

Therefore, it is essential to get an early diagnosis. The diagnostic framework is, in fact, fundamental for initiating the management of these patients for the therapeutic plan.

Keywords: *connective, laxity, collagen, ibroblast, periodontitis*

INTRODUCTION

Ehlers-Danlos syndrome (EDS) is an inherited connective tissue disorder typically characterized by joint hypermobility, skin hyperextensibility, and tissue fragility (1, 2). The current classification of EDS detects 13 subtypes and approximately 19 genes involved in collagen metabolism. A periodontal form is found among the different subtypes of EDS. The periodontal form of Ehlers-Danlos syndrome (EDS VIII) was first described by McKusick in 1972 and classified as a subtype of EDS in 1977 by Steward. (1, 3).

Although it has long been considered a rare syndrome, a recent study published in the BMJ highlighted that EDS has a prevalence of around 20 cases per 10,000 people (4).

Etiology

Periodontal EDS is caused by autosomal pathogenic variants dominant in the C1R (type 1, MIM 613785) and C1S (type 2, MIM 120580) genes, which encode the C1r and C1s subunits of the first component of the classical complement pathway, which has a key role in the innate immune response (5, 6).

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Pathogenesis

Periodontal Ehlers-Danlos syndrome represents the only variant of EDS whose pathogenetic mechanism is closely associated with the innate immune system. The activation of the serine proteases C1s and C1r leads to the activation of the complement cascade at the local level (7, 8).

Clinical findings

Severe periodontitis with early onset is the predominant and characteristic feature of pEDS. The mean age of onset of periodontitis is 14 years (range 2-35 years), with rapid progression. Another distinctive aspect of pEDS is the absence or reduced quantity of adherent gingiva, which causes fragility of the oral tissue and predisposes it to gingival recessions. These clinical features lead these young patients to premature tooth loss (3, 5, 8, 9).

Several general clinical manifestations are described in the literature: almost all individuals with pEDS report easy bruising, especially in the pretibial and atypical areas such as cheeks and thighs. Brownish pretibial plaques may be present following a primary trauma that has not resolved; this reflects significant skin fragility with atrophic scarring and delayed healing. Joint hypermobility often affects only the distal joints. Aneurysms and arterial dissections are also findings described in the literature (8-10).

Diagnosis

Major criteria:
- Severe and intractable periodontitis of early onset (childhood or adolescence)
- Lack of attached gingiva
- Pretibial plaques
- Family history of a first-degree relative who meets clinical criteria

Minor criteria:
- Easy bruising
- Joint hypermobility, mainly distal joints
- Skin hyperextensibility and fragility, abnormal scarring (wide or atrophic)
- Increased rate of infections
- Hernias
- Marfanoid facial features
- Acrogeria
- Prominent vasculature (11)

Minimal criteria suggestive for pEDS:
-Major criterion 1): severe and intractable periodontitis of early onset (childhood or adolescence)
-OR major criterion 2): lack of attached gingiva
-Plus At least two other major criteria and one minor criterion
Confirmatory molecular testing is obligatory to reach a final diagnosis (9).

Treatment

The treatment of odontostomatological manifestations requires certain timeliness due to the severity and rapid onset of periodontitis. Therefore, constant dental visits and periodontal evaluations will be crucial. These patients must be instructed in meticulous oral hygiene with the aid of interdental cleaning devices and brushes (8).

The implant treatment resulting from the loss of teeth does not seem to lead to great results, with very high rates of peri-implantitis and, consequently, implant failure (12).

For this reason, the main goal in managing these patients is to be able to keep their teeth as long as possible (8).

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