LETTER TO THE EDITOR

Localized periodontal ligament space widening as the only presentation of scleroderma—reliability recheck

Dentomaxillofacial Radiology (2012) 41, 440. doi: 10.1259/dmfr/26475287

In reference to the article by Anbiaee and Tafakhori¹, which was published in the October 2011 edition of DMFR, we have a few queries. Three cases of scleroderma were presented, of which the second had no positive findings related to scleroderma other than the widening of the periodontal ligament (PDL) space. Could a diagnosis of scleroderma be considered based only on the widening of the PDL space in a few teeth (only two molars)? Usually, the widening is generalized, which affects both the anterior and (most commonly) the posterior teeth.²

Only two-thirds of scleroderma cases are associated with widening of the PDL.^{1,3} At least one of the associated symptoms, including decreased opening of the mouth, tongue rigidity, microstomia, xerostomia and osseous resorption of the mandible, should be present along with PDL enlargement^{1,4} to arrive at a diagnosis of scleroderma; these symptoms were not present in Case 2. In this case, the skin appeared to be normal and the site of the skin biopsy was not specified.

According to Auluck,⁵ widening of the PDL space is due to the involvement of the masticatory muscle, which becomes bulky, leading to an increased occlusal load and primary trauma from occlusion. Mehra⁶ suggested that an increase in the collagen synthesis in scleroderma may be the possible cause of PDL space widening. He believed that a reduction in the force of

mastication was seen due to masticatory muscle atrophy decreasing the chances of trauma from occlusion. Neither of these were explained in the second case.

It is also clear that PDL widening can be localized or generalized in the repair phase of trauma from occlusion. This is evident only when it has reached an advance stage—as bone loss or tooth resorption.^{1,7} Whether diagnostic tests to rule out trauma from occlusion were evaluated was not indicated. Because the patient was young, any history of recent orthodontic treatment which could also have led to the widening of the PDL space³ was not mentioned.

The author concludes that cases of PDL space widening should be evaluated carefully for scleroderma. In the absence of any other manifestation, as in Case 2, we suggest that it is not practical to perform a biopsy based only on a radiographic widening of the PDL space in a few teeth.

S Prasad R and A Pai

Department of Oral Medicine & Radiology
The Oxford Dental College
Hospital & Research Centre
Bangalore
India

E-mail: drsheshaprasad@gmail.com

References

1. Anbiaee N, Tafakhori Z. Early diagnosis of progressive systemic sclerosis (scleroderma) from a panoramic view: report of three cases. *Dentomaxillofac Radiol* 2011; **40**: 457–462.
2. Neville BW, Damm DD, Allen CM, Bouquot JE, eds. *Oral and Maxillofacial Pathology*. 3rd edn. St Louis, MO: Saunders; 2009.
3. White SC, Pharoah MJ, eds. *Oral radiology—principles and interpretation*. 6th edn. St Louis, MO: Mosby; 2009.
4. Cazal C, Sobral AP, Neves RF, Freire Filho FW, Cardoso AB, da Silveira MM. Oral complaints in progressive systemic sclerosis: two cases report. *Med Oral Patol Oral Cir Bucal* 2008; **13**: E114–E118.
5. Auluck A. Widening of periodontal ligament space and mandibular resorption in patients with systemic sclerosis. *Dentomaxillofac Radiol* 2007; **36**: 441–442.
6. Mehra A. Periodontal space widening in patients with systemic sclerosis: a probable explanation. *Dentomaxillofac Radiol* 2008; **37**: 183; author reply 184.
7. Carranza FA. Periodontal response to external forces. In: Newman MG, Takei H, Klokkevold PR, Carranza FA, eds. *Carranza's clinical periodontology*. 10th edn. St Louis, MO: Saunders; 2006. pp. 467–479.