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Editorial

Oral health in patients with systemic sclerosis

An aspect of secondary importance in the life of the patients?

This editorial refers to The Canadian systemic sclerosis oral health study: orofacial manifestations and oral health-related quality of life in systemic sclerosis compared with the general population, by M. Baron *et al*., pages 1386–94.

Orofacial manifestations due to fibrosis of the skin and soft tissues are typical in SSc and include amimia, disappearance of cutaneous wrinkles, vertical furrows around the mouth and sharpening of the nose. Facial and oral changes also include telangiectasia, sicca syndrome, thinning and reduction of mouth width (microcheilia) and opening (microstomia) worsened by temporo-mandibular joint involvement. Periodontal and dental abnormalities (decayed, filled and missing teeth) are also common. Orofacial modifications affect aesthetics and are ranked as the most worrying aspects of SSc [1]. They may alter the patient's oral health-related quality of life (OHRQoL), as they hinder eating and cause difficulty in chewing and speaking. Microstomia also makes daily hygiene and dental treatment challenging [2]. Despite their high frequency, oral manifestations and OHRQoL (measured by questionnaires pertaining to oral health, capturing functional, social and psychological impacts of oral disease) in SSc patients are underrated and not comprehensively studied, probably because they are overshadowed by concomitant, sometimes severe, systemic symptoms.

The article by Baron *et al.* [3] in this edition of *Rheumatology* plugs this gap with a multisite cross-sectional study assessing oral conditions and OHRQoL in a reasonable number of SSc patients taken from the Canadian Scleroderma Research Group registry and compared with age- and sex-matched healthy controls. An oral examination demonstrated that SSc patients have significantly more decayed teeth and periodontal disease, produce less saliva (examined by the Saxon test) and have a smaller interincisal distance than controls. SSc patients also show a significantly reduced OHRQoL compared with controls as assessed by the Oral Health Impact Profile (OHIP), both in its overall score and in its seven subscales [3]. Multivariate regression analyses confirm SSc as a significant independent predictor of missing teeth, periodontal disease, interincisal distance, saliva production and OHIP scores. This high-quality study [3] confirms the results of previous work that showed a higher prevalence of dental and periodontal disease in SSc patients than in controls. However, in contrast to these studies summarized in the article [3], which do not specify the professionals who examined the patients, Baron *et al.* evaluated 163 SSc patients by standardized examinations performed by dentists.

Importantly, Baron *et al.* [3] demonstrated a significantly worse OHRQoL in SSc than in controls by using the OHIP, a self-administered questionnaire with excellent measurement properties that is valid and reliable in different populations and with high sensitivity to change. It is also potentially useful in both cross-sectional and longitudinal research in SSc, although it is not disease specific.

However, Baron *et al.* [3] do not include the Mouth Handicap in Systemic Sclerosis (MHISS) scale [4], a self-administered tool created for SSc patients to quantify disease-specific face and mouth disability. The MHISS assesses OHRQoL [4] with excellent reliability, construct validity and good sensitivity to change [5], examining handicap related to reduced mouth opening and sicca syndrome as well as aesthetic concerns. In SSc, OHRQoL evaluated by the MHISS contributes to 36% of the variance in global disability [4] and is an independent predictor of health-related quality of life (HRQoL) [6], depression and anxiety [7].

Altogether this evidence demonstrates that oral manifestations and impaired OHRQoL, although not life threatening, are important to SSc patients [1, 2] and need proper evaluation and treatment. The correlation of altered OHRQoL with global disability [4] and HRQoL [6] and mood impairment [7] substantiates the importance of oral concerns in SSc. The study of Baron *et al.* [3], although well performed, does not specify HRQoL, disability and organ involvement. It also does not characterize whether SSc patients were affected by SS, who, as described in Alantar *et al*. [8], report more prominent oral changes due to salivary gland hypofunctionality. Baron *et al.* [3] also use the Saxon text rather than the method of assessing unstimulated whole salivary flow, as suggested by the American and European Consensus Group classification criteria [9]. Moreover, the study does not classify subjects according to limited or diffuse subsets of SSc, which usually show more severe limitations in OHRQoL but a lower prevalence of sicca symptoms [6, 7].

As SSc may involve the whole mouth and facial tissues, a coordinated multidisciplinary approach involving rheumatologists, dentists, oral hygienists, physiotherapists and other professionals skilled in SSc evaluation and care is necessary to treat the issues related to oral problems [8] and OHRQoL [4]. In daily rheumatology

practice, OHRQoL and oral concerns should be evaluated by self-assessed questionnaires, which are easy to use and score and can be both generic (OHIP) and SSc specific (MHISS), and by measuring mouth opening. These tools, which are sensitive to change, are also useful to follow up the efficacy of treatment.

According to recently proposed recommendations [8], oral problems may be assessed by dentists and oral hygienists, who should take into account the problems of oral mucosa, involvement of the manducatory apparatus and mouth (responsible for limitations in mouth opening that may hinder oral care) and potential treatment-related adverse events [8]. In terms of imaging, dental panoramic radiography may detect dental caries early [8], and radiography, echography and eventually MRI may help in early diagnosis of temporo-mandibular joint involvement changes involved in microstomia development.

In SSc patients, prevention of mouth infections and caries includes cessation of tobacco, education and teaching about oral hygiene, periodontal maintenance and treatment of sicca concerns with salivary substitutes and sialagogue drugs. Exercises aimed at maintaining mouth opening and skin elasticity should be taught since the earliest phases of the disease to prevent microstomia and to reduce worsening of skin fibrosis [5, 8, 10]. In patients with microstomia, specific mouth-opening rehabilitation programmes [5, 10], flexible sectional dentures and splints are recommended [8].

In conclusion, the major merit of Baron *et al.* [3] is to confirm on a large population the impairment of oral health and OHRQoL in SSc and to focus attention on problems that are not of secondary importance to patients. The results of the study are a useful starting point for performing further surveys about OHRQoL in SSc that should include a better characterization of patients, including evaluation of secondary SS, disease subsets, global HRQoL, disability and organ involvement, and to develop early multidisciplinary interventions for oral health and OHRQoL.

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References

1 Amin K, Clarke A, Sivakumar B *et al*. The psychological impact of facial changes in scleroderma. Psychol Health Med 2011;16:304–12.

2 Albilia JB, Lam DK, Blanas N *et al*. Small mouths... big problems? A review of scleroderma and its oral health implications. J Can Dent Assoc 2007;73:831–6.

3 Baron M, Hudson M, Tatibouet S *et al*. The Canadian systemic sclerosis oral health study: orofacial manifestations and oral health-related quality of life in systemic sclerosis compared with the general population. Rheumatology 2014;53:1386–94.

4 Mouthon L, Rannou F, Bérezné A *et al*. Development and validation of a scale for mouth handicap in systemic sclerosis: the Mouth Handicap in Systemic Sclerosis scale. Ann Rheum Dis 2007;66:1651–5.

5 Maddali-Bongi S, Landi G, Galluccio F *et al*. The rehabilitation of facial involvement in systemic sclerosis: efficacy of the combination of connective tissue massage, Kabat's technique and kinesitherapy: a randomized controlled trial. Rheumatol Int 2011;31:895–901.

6 Maddali-Bongi S, Del Rosso A, Mikhaylova S *et al*. Hand and face disabilities impact on global disability and quality of life in systemic sclerosis patients. Clin Exp Rheumatol (in press).

7 Del Rosso A, Mikhaylova S, Baccini M *et al*. In systemic sclerosis, anxiety and depression assessed by hospital anxiety depression scale are independently associated with disability and psychological factors. Biomed Res Int 2013;2013:507493.

8 Alantar A, Cabane J, Hachulla E *et al*. Recommendations for the care of oral involvement in patients with systemic sclerosis. Arthritis Care Res 2011;63:1126–33.

9 Vitali C, Bombardieri S, Jonsson R *et al*. Classification criteria for Sjögren's syndrome: a revised version of the European criteria proposed by the American-European Consensus Group. Ann Rheum Dis 2002;61:554–8.

10 Pizzo G, Scardina GA, Messina P. Effects of a nonsurgical exercise program on the decreased mouth opening in patients with systemic scleroderma. Clin Oral Investig 2003;7:175–8.