



### Swan Neck Deformity and Oral Health

#### Kuşu Boynu Deformitesi ve Ağız Sağlığı

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*Çukurova Üniversitesi Tıp Fakültesi Dergisi (Cukurova Medical Journal) 2013; 38 (2):345-347.*

#### Dear Sir

Rheumatoid arthritis (RA) is an autoimmune disorder affecting the joints. It affects the joints by causing inflammation resulting in deformity. Etiology is idiopathic but certain predisposing factors persist they are

- 1) Smoking is the major known environmental risk factor for RA, as is evident from epidemiologic studies<sup>1</sup>.
- 2) HLA-DR shared epitope (SE) genes comprise the major genetic risk factors for RA<sup>1</sup>.
- 3) A dramatic gene-environment interaction between smoking and HLA-DR SE genes<sup>1</sup>.
- 4) Antibodies to autoantigens modified by citrullination through deimination of arginine to

citrulline are present in about two-thirds of all RA patients<sup>1</sup>.

A female patient 35 yrs of age presented to our department with generalized mobile teeth. On general examination she had swan neck deformity of both hands (figure 1). Her temporomandibular joint examination revealed crepitus on both sides indicating symmetrical involvement of all joints. On oral examination she had periodontal pockets, bone loss seen in the radiograph indicating severe periodontitis (figure 2). Based on these findings Rheumatoid arthritis was suspected as provisional diagnosis.



Figure 1 Swan neck deformity



Figure 2: Periodontitis

In recent years, remarkable epidemiological and pathological relationships between periodontal diseases and rheumatic diseases, especially rheumatoid arthritis (RA), have been presented. Chronic, plaque-associated inflammation of the periodontium is among the most common oral diseases and has a prevalence of 80% to 90%, resulting in soft and hard periodontal tissue destruction and ultimately in tooth loss<sup>2</sup>.

The mechanisms and clinical settings of the swan-neck deformity (SND) have interested physicians for more than a century. Archibald E. Garrod, son of the famed Sir Alfred Garrod, in his 1890 *Treatise on Rheumatism and Rheumatoid Arthritis*, published an illustrated description of an arthritic deformity. The term SND refers in this review to the digital deformity, characterized by proximal interphalangeal joint (PIP) hyperextension and distal interphalangeal joint (DIP) flexion<sup>3</sup>.

The anatomic definition of SND is hyperextension or *recurvatum* of PIP associated with flexion of the DIP. Zancolli has emphasized that the two constituent deformities (PIP recurvatum and DIP flexion) are interrelated and

are a logical consequence of the normal kinesiology of the digit<sup>3</sup>.

Rheumatoid arthritis is an immune mediated disorder and the etiology is inconclusive. Several hypotheses have been proposed to phrase the pathogenesis. Clinical features of this disorder should be recognized to make a prompt early diagnosis. There are several researches to correlate oral features and RA. So oral cavity is called as mirror for systemic disorder image.

## REFERENCES

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geliş tarihi/received :24.07.2012

kabul tarihi/accepted:16.11.2012