Mandibular Radiological Findings in Thalassaemia Patient with Maxillary Overgrowth: A Case Report

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A 42-year-old Caucasian female presented to the clinics of oral surgery complaining of painless maxillary expansion similar to multiple exostotic appearance. The Thalassaemia patient reassured for the benign nature of maxillary overgrowth. The radiological findings are discussed with a great emphasis on the possible association of mandibular radiological signs to Thalassaemia disorders.

Key words: β-Thalassaemia, oral surgery, maxillary overgrowth

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INTRODUCTION

Thalassaemia is a Greek composite word (Thalassa = sea, haema = blood) describing the condition of globin abnormality, causing anaemia due to decreased hemoglobin production or abnormality of the hemoglobin function (Urbanati et al., 2006). The two distinct types, inherited by autosomal dominant patterns, are α-Thalassaemia and β-Thalassaemia with the genetic phenotype distinguishing both of them into heterozygous and homozygous patterns, affecting the prognosis and indicating the severity of the disorders (Schiere and Angelucci, 2005).

The heterozygous β- Thalassaemia considered being a status of mild anemia, which did not usually have serious complications as seen in homozygous patterns (Schiere and Angelucci, 2005; Voskaridou and Terpos, 2004). Therefore some heterozygous patients remain undiagnosed for a long period suffering from mild symptoms.

In this case report a female patient with heterozygous type of β-Thalassaemia presented to the clinic of oral surgery complaining of maxillary overgrowth. A panoramic tomography, showed areas of mandibular osteosclerotic lines that may be described as areas of bone trabeculation not usually seen in healthy individuals.

CASE REPORT

A 42-year-old caucasian female presented to the clinics of oral surgery complaining of painless maxillary expansion similar to multiple exostotic appearance (Fig. 1). The patient was a β’ Thalassaemia minor disorder with raised HbA2 and mild anemia. No medical treatment has been required so far for the condition. The dental history was free apart from the tooth fillings in teeth 16, 17, 35, 47 and dental prosthetics in teeth 11, 14-16, 44-46.

On clinical examination maxillary overgrowth, not related to mucoa abnormality, observed which did not alter the centric occlusion. All the exostoses-like expansions located buccally in a hemisphere pattern.

DISCUSSION

The radiographic findings described in our case might be added to the well-known hair-on-end lateral cephalometric x-ray appearance and macroscopic maxillary enlargement on head and neck diagnostics (Hollar, 2001; Weel et al., 1987). The medullary expansion due to increased production of erythropoietin could be seen in the radiograph of the skull and hand wrist (Murphy et al., 2002). This appearance considered to be apart from the Thalassaemia a general radiographic sign of severe anemias such as sickle cell disease (Forbes and Jackson, 2003).

As far as we know, the dental panoramic tomography was not reported in the literature as an investigation for examining the quality and quantity of bone in patients with Thalassaemia. Our suggestion is compatible with that of Tyler et al. (2006) concluding that skeletal manifestations may be seen theoretically in every bone. Therefore, the mandible may be included in the process of biochemical changes based on erythropoietin function. The centers of maxillary bone overgrowth, at this case report, seem to be located between the canines and premolars bilaterally indicating the possible location of the expansion origin (Fig. 3). In cervical spine, platyspondyly or bone in bone appearance did not appear in panoramic tomography.

The radiological findings described above, such as sparse, coarse, dense trabecular pattern are not in itself...
diagnostic of Thalassaemia (Forbes and Jackson, 2003), but may be used in the field of dentistry as an extra diagnostic aid. Concluding, great emphasis should be given in the field of prenatal diagnostics and genetic treatment. Thalassaemia sickness is increased in areas such as Mediterranean countries and Asia. More than 100 different mutations have been described including mutations related to deletions or not (Sarnaik, 2005). Therefore, the research is mainly based on the molecular biology and genetics creating a very promising area of radical therapeutics (Schréir and Angelucci, 2005).

**REFERENCES**


