

Prevalence of Malocclusion and Assessment of Orthodontic Treatment Needs in Malay Transfusion-Dependent Thalassemia Patients

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Abstract : Statement of the Problem: The life expectancy for transfusion-dependent thalassemia patients has increased dramatically with iron-chelation therapy and other modern management modalities. In these patients, the most dominant maxillofacial manifestations are protrusion of zygomatic bones and premaxilla due to the hyperplasia of bone marrow. The purpose of this study is to determine the prevalence of malocclusion and orthodontic treatment needs according to the Dental Aesthetic Index (DAI) among Malay transfusion-dependent thalassemia patients. Orientation: This is a cross-sectional study consist of 43 Malay transfusion-dependent thalassemia patients, 22 males, and 19 females with the mean age of 15.9 years old (SD 3.58). The subjects were selected randomly from patients attending Paediatrics and Internal Medicine Clinic at Hospital USM and Hospital Sultana Bahiyah. The subjects were assessed for malocclusion according to Angle's classification, and orthodontic treatment needs using DAI. The results show that 22 of the subjects (51.1%) have class II malocclusion, 12 subjects (28%) have class I, while 9 subjects (20.9%) have class III. The assessment of orthodontic treatment needs to reveal 22 cases (51.1%) fall in the normal/minor needs category, 12 subjects (28%) fall in the severe and very severe category, while 9 subjects (20.9%) fall in the definite category. Conclusion & Significance: Half of Malay transfusion-dependent thalassemia patients have Class II malocclusion. About 28% had malocclusion and required orthodontic treatment. This research shows that Malay transfusion-dependent thalassemia may require orthodontic management; earlier intervention to reduce the complexity of the treatment later, suggesting functional appliance as a suitable treatment option for them, a twin block appliance together with headgear to restrict maxillary growth suggested for management. The current protocol implemented by the Malaysian Ministry of Health for the management of these patients seems to be sufficient since the result shows that about 28% require orthodontic treatment need, according to DAI.

Keywords : prevalence, DAI, thalassaemia, angle classification

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