

Disproportional growth of dentofacial components in hemoglobin-E beta thalassemia patients (2)

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Introduction

The disharmony of the growth of the dentofacial components can disturb the function of mastication and ones facial appearance, Sassouni & Forrest (1971), Winoto (1989). One of the diseases that can cause dentofacial disharmony is HbE beta thalassemia, Poyton dan Davey (1968), DeBall dan Gordy (1997), Drew dan Sachs (1997). HbE beta thalassemia is the most commonly found hereditary disorder in a number of places around the world, Hill (1992). One of it's the clinical manifestations is in the dentofacial complex in the form of facies Cooley, Poyton & Davey (1968), DeBall & Gordy (1997), Drew & Sachs (1997). The pattern of dentoskeletal deformity of thalassemia children was caused by retardation and disproportional dentoskeletal components, Retno Hayati (1998). In serious cases, besides disturbing the facial appearance, it also affects chewing and speaking functions. The aim of this study is to prove that disproportional growth of dentofacial components in hemoglobin-E beta thalassemia patients cause a typical thalassemic faces.

Method

Seventy eight cases of Hb-E beta thalassemia aged 9 to 14 years were studied. This study was a cross sectional design that aimed to analyze the disproportional growth of dentofacial components through cephalometric radiograph analysis. Subjects was divided into two groups based on the dental transition period, aged 9-11 years and 12-14 years.

Result and Discussion

The results from both of table 1 and table 2 indicate that in HbE beta thalassemia subjects were (1) the ratio of upper facial height to lower facial height were smaller compared to the normal group. (2) the SN-MP angle in the 9-11 year old age group was not different from the normal group, but the size of that angle in the 12-14 year old age group was larger compared to the normal group. These indicate that a disproportional growth of dentofacial components in a vertical direction was found in the HbE beta thalassemia subjects, and it's more evident in the 12-14 year old group than the 9-11 year old group. This research result is consistent with the research of Bishara and Jakobsen (1985) who stated that vertical facial deformities are more evident in older than younger aged sufferers, Silvieira et al, (1992)

(3) the ANB angle were significantly larger in the HbE beta thalassemia subjects compared to the normal group. This finding indicate that were the existence of second class skeletal malocclusion in the HbE beta thalassemia patients. (4) the size of the SNA angle in the HbE beta thalassemia subjects was not different from the normal subjects, meaning that the maxilla position in relation to the anterior cranium base in the HbE beta thalassemia subjects did not differ from that of the normal subjects. (5) The SNB angle was smaller in the HbE beta thalassemia subjects indicating that the mandible position in relation to the anterior cranium base in those subjects was more posterior or retrograde compared to the normal subjects. These findings indicate that there is disproportional anteroposterior growth in dentofacial