

INTISARI

Maloklusi dapat disebabkan oleh faktor genetik dan lingkungan yang saling berinteraksi. Maloklusi Angle kelas II divisi 1 merupakan jenis maloklusi kelas II yang paling sering ditemui. Kelompok etnis yang berbeda memiliki pola bentuk tengkorak dan rahang tertentu. Penelitian ini bertujuan untuk mengetahui karakteristik dan klasterisasi jaringan keras dan lunak maloklusi angle kelas II divisi 1 etnis Jawa.

Penelitian terhadap 72 *softfile* sefalogram dianalisis menggunakan *software* Webceph. Terdapat 26 pengukuran untuk setiap sefalogram. Data hasil pengukuran dihitung nilai deskriptif dan *Principal Component Analysis* (PCA) untuk mendapatkan komponen utama dan klaster. Data klaster yang diperoleh dianalisis dengan uji ANOVA, dilanjutkan dengan uji *Post Hoc* untuk melihat perbandingan antar klaster.

Hasil penelitian menunjukkan karakteristik maloklusi Angle kelas II divisi 1 etnis Jawa memiliki maksila normal, mandibula retrognatik, pertumbuhan vertikal normodivergen, proklinasi insisivus serta profil jaringan lunak cembung. Analisis klaster mengidentifikasi 6 klaster dengan karakteristik yang berbeda. Klaster 1 (15,28%) memiliki maksila prognatik, pertumbuhan hipodivergen, insisivus proklinasi, bibir atas dan bawah protrusif. Klaster 2 (30,56%) memiliki mandibula retrognatik, normodivergen, insisivus proklinasi, bibir atas dan bawah protrusif. Klaster 3 (15,28%) mandibula retrognatik, hipodivergen, *occlusal plane* datar, insisivus proklinasi, bibir atas protrusif. Klaster 4 (29,17%) mandibula retrognatik, hipodivergen, insisivus proklinasi, bibir bawah protrusif. Klaster 5 (6,94%) bimaxiler retrognatik, hiperdivergen, insisivus proklinasi, bibir atas dan bawah protrusif. Klaster 6 (2,78%) maksila prognatik, hiperdivergen, insisivus proklinasi, bibir atas dan bawah protrusif. Kesimpulan penelitian ini adalah terdapat 6 klaster maloklusi Angle kelas II divisi 1 etnis Jawa dengan perbedaan karakteristik berdasarkan jaringan keras dan lunak.

Kata kunci: sefalogram lateral, maloklusi Angle kelas II divisi 1, etnis Jawa, klasterisasi

ABSTRACT

Malocclusion caused by genetic and environmental factors. Malocclusion angle class II division 1 is the most frequent type of malocclusion class II. Different ethnicity has various pattern of cranium and jaw morphology. This study aims to determine the hard and soft tissue characteristics in malocclusion class II division 1 in Javanese and its clusterization.

Analysis of 72 cephalogram was performed using Webceph. Twenty-six measurement variables performed in every cephalogram. The descriptive values of the result was calculated and Principal Component Analysis was performed in order to establish the main components and clusters. Data of the clusters was analyzed using ANOVA, followed by Post Hoc in order to observe differences between clusters.

Result of the study revealed that the hard and soft tissue characteristics of malocclusion angle class II division 1 in Javanese were normal maxilla, retrognathic mandible, normodivergent, incisor proclination, and convex soft tissue profile. Cluster analysis identified 6 clusters with different characteristics. Cluster 1 (15,28%) had prognathic maxilla, hypodivergent, proclined incisors, protrusive lips. Cluster 2 (30,56%) had retrognathic mandible, normodivergent, proclined incisors, protrusive lips. Cluster 3 (15,28%) had retrognathic mandible, hypodivergent, flat occlusal plane, proclined incisors, protrusive upper lip. Cluster 4 (29,17%) had retrognathic mandible, hypodivergent, proclined incisors, protrusive lower lip. Cluster 5 (6,94%) had bimaxillary retrognathic, hyperdivergent, proclined incisors, protrusive lips. Cluster 6 (2,78%) had prognathic maxilla, hyperdivergent, proclined incisors, protrusive lips. The conclusion is there are 6 clusters of malocclusion angle class II division 1 in Javanese with different hard and soft tissue characteristics.

Key words: Lateral cephalogram, malocclusion class II division 1, Javanese ethnic, clusterization