

ABSTRAK

HUBUNGAN ANTARA SUDUT GONIAL DAN TINGGI RAMUS DENGAN JARAK ANTARA UJUNG AKAR DAN KANALIS MANDIBULA PADA IMPAKSI MESIOANGULAR MOLAR KETIGA BAWAH (Studi Pada Radiografi Panoramik di RSGMP UNSOED)

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Latar belakang. Impaksi molar ketiga terutama impaksi mesioangular memiliki prevalensi tinggi di Indonesia dan umumnya membutuhkan tindakan pembedahan yang berisiko mencederai saraf alveolaris inferior. Risiko cedera saraf ini dipengaruhi oleh kedekatan ujung akar gigi dengan kanalis mandibula. Evaluasi hubungan anatomis tersebut menjadi krusial dalam perencanaan bedah, khususnya melalui radiografi panoramik yang memungkinkan penilaian morfologi mandibula. Faktor morfologi mandibula khususnya variasi sudut gonial dan tinggi ramus, diketahui memengaruhi ketersediaan ruang retromolar dan kedalaman impaksi, namun hasil penelitian sebelumnya masih menunjukkan perbedaan antar populasi. **Tujuan.** Mengetahui hubungan antara sudut gonial dan tinggi ramus dengan jarak antara ujung akar gigi dan kanalis mandibula pada molar ketiga impaksi mesioangular. **Metode.** Penelitian ini bersifat kuantitatif analitik observasional dengan desain penelitian *cross sectional* pada gambaran radiograf panoramik di RSGMP UNSOED tahun 2024-2025. Pengambilan data dilakukan melalui metode *purposive sampling* dengan total 167 sampel unit gigi. Pengukuran sudut gonial, tinggi ramus, dan jarak antara ujung akar ke kanalis dilakukan menggunakan *software ImageJ* yang dikalibrasi oleh *Cliniview*. **Hasil.** Pengukuran dianalisis menggunakan uji korelasi Spearman. Hasil uji didapatkan bahwa sudut gonial ($r = -0,032$; $p = 0,681$) dan tinggi ramus ($r = 0,149$; $p = 0,055$) tidak memiliki hubungan dengan jarak antara ujung akar dan kanalis mandibula ($p < 0,05$). **Simpulan.** Tidak terdapat hubungan antara sudut gonial dan tinggi ramus dengan jarak antara ujung akar dan kanalis mandibula pada impaksi mesioangular molar ketiga bawah di RSGMP UNSOED.

Kata kunci: sudut gonial, tinggi ramus, kanalis mandibula, impaksi mesioangular, radiografi panoramik

ABSTRACT

RELATIONSHIP BETWEEN THE GONIAL ANGLE AND RAMUS HEIGHT WITH THE DISTANCE OF THE ROOT TIP AND MANDIBLE CANAL IN MESIOANGULAR IMPACTION OF LOWER THIRD MOLAR (A Study Based on Panoramic Radiography in RSGMP UNSOED)

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Background. Third molar impaction, especially mesioangular impaction, has a high prevalence in Indonesia and generally requires surgical intervention that risks damaging the inferior alveolar nerve. The risk of nerve damage is influenced by the proximity of the tooth root tip to the mandibular canal. Evaluation of this anatomical relationship is crucial in surgical planning, particularly through panoramic radiography, which allows assessment of mandibular morphology. Mandibular morphological factors, especially variations in gonial angle and ramus height, are known to affect retromolar space availability and impaction depth, but previous studies have shown differences between populations. **Purpose.** To determine the relationship between the gonial angle and ramus height with the distance between the root tip and mandibular canal in mesioangular impacted third molars. **Method.** This study was a quantitative analytical observational study with a cross-sectional design using panoramic radiographs at RSGMP UNSOED in 2024-2025. Data collection was conducted using purposive sampling with a total of 167 tooth samples. The gonial angle, ramus height, and distance between the root tip and canal were measured using ImageJ software calibrated by Cliniview. **Result.** The measurements were analyzed using Spearman's correlation test. The test results showed that the gonial angle ($r = -0.032$; $p = 0.681$) and ramus height ($r = 0.149$; $p = 0.055$) were not related to the distance between the root tip and the mandibular canal ($p < 0.05$). **Conclusion.** There was no relationship between the gonial angle and ramus height and the distance between the root tip and mandibular canal in mesioangular impaction of the lower third molar at RSGMP UNSOED.

Keyword: gonial angle, ramus height, mandible canal, mesioangular impaction, lower panoramic radiography