

INTISARI

Perawatan fraktur mandibula bertujuan mengembalikan oklusi, anatomi dan fungsi pengunyahan melalui stabilisasi adekuat. Penggunaan dua *miniplate* berfungsi menahan gaya tarik dan torsi, namun beresiko mencederai saraf, akar gigi dan biaya tinggi. Modifikasi dengan satu *miniplate* kombinasi *archbar* mengurangi resiko pasca operasi dan efisiensi biaya. Tujuan penelitian untuk evaluasi penyembuhan fraktur parasimfisis mandibula pada penggunaan satu *miniplate* kombinasi *archbar*, dua *miniplate* tanpa *archbar* dan dua *miniplate* kombinasi *archbar* menggunakan analisis *gray scale value* (GSV) yaitu analisis perubahan densitas tulang yang direpresentasikan melalui perubahan derajat keabuan radiograf.

Penelitian retrospektif menggunakan data pasien fraktur komplrit parasimfisis mandibula *unilateral* RSUD Margono Soekarjo tahun 2017 sampai 2023 terbagi 3 kelompok, kelompok A: satu *miniplate* kombinasi *archbar*, B: dua *miniplate* tanpa *archbar* dan C: dua *miniplate* kombinasi *archbar*, tiap kelompok 15 pasien. Analisis GSV disajikan dalam *pixel value ratio* (PVR) yaitu rasio nilai GSV fraktur dengan tulang sehat. Waktu pengamatan 1 hari, 2 minggu, 8-13 minggu dan >13 minggu. Subjek terbanyak laki-laki, rerata usia 25-31 tahun, fraktur didominasi tipe *isolated*, panjang pelat 5 *holes* pada ketiga kelompok dengan *screw* 8 mm paling banyak digunakan.

Dari 45 pasien tidak ditemukan mobilitas fraktur, maloklusi dan dehisensi pasca operasi. Parestesi ditemukan pada kelompok B dan C masing-masing 13,3%. Tidak ada perbedaan bermakna nilai GSV dan PVR ketiga kelompok ($p=0,855$ dan $0,267$), kecenderungan nilai tertinggi pada kelompok C. Kesimpulan penelitian ini tidak terdapat perbedaan bermakna nilai GSV dan PVR penggunaan satu *miniplate* kombinasi *archbar*, dua *miniplate* tanpa *archbar* dan dua *miniplate* kombinasi *archbar* pada fraktur komplrit parasimfisis mandibula *unilateral*.

Kata kunci: derajat keabuan, fraktur parasimfisis mandibula, *miniplate*,

ABSTRACT

Mandibular fractures treatment goal is to restore occlusion, anatomy and masticatory function through adequate stabilization. The use of two miniplates in the management of mandibular parasymphiseal fractures is to resist tensile and torsional forces, but risks injuring mental nerve, tooth root and higher cost. Modification using one miniplate with an archbar reduces postoperative risk and cost efficiency. This study to evaluate the healing of mandibular parasymphysis fractures in usage of one miniplate with archbar, two miniplates without archbar and two miniplates with archbar using gray scale value (GSV) analysis through bone density analysis during fracture healing which represented in radiograph changing of gray value.

This retrospective study using data of complete unilateral mandibular parasymphysis fracture RSUD Margono Soekarjo between years 2017-2023, divided into 3 groups, group A: 1 miniplate with archbar, B: two miniplates without archbar and C: 2 miniplates with archbar with 15 patients per group. GSV analysis was presented in the form of pixel value ratio (PVR), which is the ratio of GSV fracture to healthy bone. Observation time was 1 day, 2 weeks, 8-13 weeks and > 13 weeks. The majority of subjects were males, mean ages 25-31 years, fractures were predominantly isolated type, plate length was 5 holes in the three groups with 8 mm screws most frequently used.

From 45 patients no fracture mobility, malocclusion and postoperative dehiscence were found. Paresthesia were found in group B and C which 13.33% each. There was no significant difference in the GSV and PVR values of the three groups ($p=0.855$ and 0.267), the highest value trend was in group C. The conclusion of this study was that there was no significant difference in the GSV and PVR values using one archbar combination miniplate, two miniplates without archbar and two combination miniplates archbar in complete unilateral mandibular parasymphysis fracture.

Keywords: gray scale value, mandibular parasymphiseal fracture, miniplate,