

INTISARI

Odontektomi molar ketiga mandibula adalah prosedur umum di bidang bedah mulut dan maksilofasial. Kondisi pascaodontektomi menyebabkan kerusakan jaringan lokal dan inflamasi. Kolonisasi bakteri di lokasi operasi juga dapat memperburuk respons inflamasi lokal dan memicu aktivasi respons inflamasi sistemik. *Interleukin-6* (IL-6) dan rasio neutrofil limfosit (RNL) dikenal sebagai indikator biologis tingkat respons inflamasi pascaoperasi. Irigasi intraoral dengan *chlorhexidine* (CHX) 0,2% secara lokal dapat menurunkan jumlah mikroba di lokasi operasi yang berpotensi memengaruhi respons inflamasi sistemik. Penelitian ini bertujuan untuk menilai efek irigasi CHX 0,2% terhadap kadar IL-6 dan RNL sebelum operasi (H-0), hari ke-1 pascaoperasi (H+1), dan hari ke-7 pascaoperasi (H+7) setelah odontektomi gigi molar ketiga rahang bawah dengan anestesi lokal.

Uji acak terkontrol dilakukan di Poliklinik Bedah Mulut dan Maksilofasial RSPAU dr. Suhardi Hardjolukito, Yogyakarta dari bulan Juli hingga September 2025. Empat puluh peserta secara acak terbagi ke dalam kelompok CHX dan kelompok kontrol dengan dua puluh orang di setiap kelompok. Serum IL-6 dan RNL dikalkulasi pada H-0, H+1, dan H+7, kemudian dianalisis menggunakan uji *Repeated Measure ANOVA* dilanjutkan uji *post hoc* LSD ($\alpha=0,05$).

Karakteristik dasar subjek penelitian didapatkan serupa antarkelompok ($p>0,05$). Interaksi waktu perlakuan yang signifikan terdeteksi untuk IL-6 ($p<0,05$) dan RNL ($p<0,05$). IL-6 dan RNL menurun secara signifikan pada kelompok CHX pada H+1 dan H+7 ($p<0,05$).

Irigasi intraoral CHX 0,2% secara lokal berkorelasi dengan penurunan respons inflamasi pascaoperasi. Kondisi ini dibuktikan dengan penurunan kadar IL-6 dan RNL selama fase penyembuhan awal.

Kata kunci: *chlorhexidine*, *interleukin-6*, rasio neutrofil limfosit.

ABSTRACT

Mandibular third molar odontectomy is a common oral and maxillofacial surgical procedure that causes localized tissue damage and subsequent inflammation. Bacterial colonization at the surgical site may exacerbate local inflammatory responses and facilitate systemic inflammatory activation. Interleukin-6 (IL-6) and the neutrophil-to-lymphocyte ratio (NLR) are recognized biomarkers indicative of the extent of postoperative inflammation. Intraoral irrigation with 0.2% chlorhexidine (CHX) locally lowers microbial load at the surgical site, potentially influencing systemic inflammatory responses. This study aims to evaluate the effects of 0.2% CHX irrigation on serum IL-6 levels and NLR before surgery (H-0), on postoperative day 1 (H+1), and on postoperative day 7 (H+7) following the extraction of the mandibular third molar under local anesthesia.

A randomized controlled trial was performed at the Oral and Maxillofacial Surgery Clinic at RSPAU dr. Suhardi Hardjolukito, Yogyakarta, from July to September 2025. Forty participants were randomly allocated to CHX and control groups, with twenty persons in each group. Serum IL-6 and NLR were assessed at H-0, H+1, and H+7, and analyzed via repeated measures ANOVA with post hoc LSD testing ($\alpha=0.05$).

The baseline characteristics were similar among groups ($p>0.05$). Notable time-treatment interactions were detected for IL-6 ($p=0.005$) and NLR ($p<0.001$). Interleukin-6 and neutrophil-to-lymphocyte ratio were considerably reduced in the CHX group at H+1 and H+7 ($p<0.05$).

Local intraoral irrigation with 0.2% CHX correlated with a diminished postoperative inflammatory response, evidenced by lowered IL-6 levels and NLR during the initial healing phase.

Keywords: chlorhexidine, interleukin-6, neutrophil-to-lymphocyte ratio