

# Hubungan Lingkar Betis dengan Keberhasilan Ekstubasi Pasien Dewasa di Ruang Rawat Intensif = Association Between Calf Circumference and Successful Extubation of Adult Patients in the Intensive Care Unit

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## Abstrak

Pasien sakit kritis mengalami peningkatan laju atrofi otot yang memengaruhi keberhasilan ekstubasi. Pemeriksaan massa otot dengan alat tervalidasi terbatas karena instabilitas klinis, kesulitan transfer pasien, dll. Lingkar betis (LB) berkorelasi dengan hasil pemeriksaan massa otot tervalidasi, sederhana, dan efisien. Studi bertujuan mengetahui hubungan LB awal admisi dengan keberhasilan ekstubasi. Studi kohort prospektif melibatkan 65 subjek berusia 1870 tahun, pengguna ventilasi mekanis di RSUPN dr. Cipto Mangunkusumo dan RS Universitas Indonesia. Pemantauan sejak admisi ICU hingga pasien ekstubasi atau maksimal 14 hari pasca intubasi. Subjek didominasi laki-laki (67,7%), rerata usia  $48,2 \pm 13,8$  tahun, dan indeks massa tubuh  $23,77 \pm 6,30$  kg/m<sup>2</sup>. Sebagian besar pasien bedah (81,5%) dan memiliki komorbiditas (81,5%). Durasi intubasi 43 jam (12-401). Rerata LB awal  $32,8 \pm 3,4$  cm dan LB akhir  $32,1 \pm 3,6$  cm, terdapat beda rerata  $-0,68$  cm ( $p < 0,001$ ). Tidak ditemukan hubungan LB awal dengan keberhasilan ekstubasi (RR 1,23; IK 95%: 0,891,69,  $p = 0,199$ ). Lingkar betis awal sebagai pemeriksaan untuk massa otot bukan prediktor keberhasilan ekstubasi. Analisis tambahan menemukan perbedaan rerata bermakna LB awal dan LB akhir yang diukur. Perubahan LB didapatkan perbedaan nilai bermakna antara kelompok berhasil ekstubasi dibandingkan sulit ekstubasi.

.....Critically ill patients experience an increased rate of muscle atrophy that affects the success of extubation. Examination of muscle mass with validated tools is limited due to clinical instability, difficulty in patient transfer, etc. Calf circumference (LB) correlates with the results of a validated, simple and efficient muscle mass examination. The study aims to determine the relationship between initial LB admission and successful extubation. A prospective cohort study involving 65 subjects aged 1870 years, users of mechanical ventilation at RSUPN dr. Cipto Mangunkusumo and University of Indonesia Hospital. Monitoring from ICU admission until the patient is extubated or a maximum of 14 days after intubation. Subjects were predominantly male (67.7%), mean age  $48,2 \pm 13,8$  years, and body mass index  $23,77 \pm 6,30$  kg/m<sup>2</sup>. Most of the patients were surgical (81,5%) and had comorbidities (81,5%). Duration of intubation 43 hours (12-401). The mean initial LB was  $32,8 \pm 3,4$  cm and final LB  $32,1 \pm 3,6$  cm, there was a mean difference of  $-0,68$  cm ( $p < 0,001$ ). There was no association between early LB and extubation success (RR 1,23; 95% CI: 0,891,69,  $p = 0,199$ ). Initial calf circumference as a test for muscle mass is not a predictor of successful extubation. Additional analysis found significant mean differences in initial LB and final LB measured. There was a significant difference in LB changes between the successful extubation group compared to the difficult extubation group.