

INTISARI

Latar belakang: Pasien yang menjalani operasi mayor berpotensi mengalami kondisi perdarahan masif, durasi operasi lama. Manajemen cairan perioperatif pada pasien yang menjalani operasi mayor menjadi hal yang penting. Pemberian cairan secara berlebih dapat menyebabkan pelepasan *atrial natriuretic peptide* dan disfungsi *glycocalyx/vascular endothelial junction* secara iatrogenik yang dapat menyebabkan perpindahan cairan intravaskuler ke ruang ekstrasvaskuler. Perpindahan cairan ini dapat terjadi di ruang interstisial paru. Pemeriksaan skor *LUS* dan *TFC* dengan ICON dianggap dapat menilai *EVLW*.

Tujuan: Mengetahui hubungan skor *LUS* dengan *TFC* dengan ICON pada pasien post operasi mayor di ICU.

Metode: Penelitian ini menggunakan rancangan penelitian observasional prospektif dengan desain *cross sectional study*. Besar sampel adalah 30 pasien post operasi mayor dewasa yang dirawat di ICU RSUP Dr. Sardjito dengan usia ≥ 18 tahun. Skor *LUS* didapatkan dari pemeriksaan USG paru menggunakan USG merk Esaote SX331 dan *TFC* dinilai dengan alat ICON. Analisis korelasi dilakukan untuk mengetahui derajat hubungan antara skor *LUS* dengan *TFC*.

Hasil: Sampel penelitian ini sebanyak 30 pasien, laki-laki 12 pasien (40%), perempuan 18 pasien (60%). Rerata usia $46,40 \pm 12,30$ tahun, rasio P/F $411,21 \pm 77,64$, AaDO₂ $121,20 \pm 53,4$, skor *LUS* $3,30 \pm 2,58$, dan *TFC* $24,56 \pm 10,30$. Balans cairan selama operasi $194,2 \pm 756,65$. Hasil korelasi Spearman skor *LUS* dengan *TFC* menunjukkan bahwa ada hubungan positif dan signifikan dengan $p < 0,001$ dan $r = 0,703$. Hasil uji spearman untuk skor *LUS* dengan rasio P/F, skor *LUS* dengan AaDO₂, skor *LUS* dengan balans cairan di ruang operasi menunjukkan tidak adanya hubungan yang signifikan dari kedua variabel ($p > 0,05$).

Kesimpulan: Hubungan skor *LUS* dengan *TFC* pada pasien post operasi mayor yang di rawat di ICU RSUP Dr. Sardjito Yogyakarta signifikan secara statistik ($p < 0,001$) dan berhubungan positif ($r = 0,703$). Hubungan skor *LUS* dengan rasio P/F, skor *LUS* dengan AaDO₂, dan skor *LUS* dengan balans cairan durante operasi pada pasien post operasi mayor yang di rawat di ICU RSUP Dr. Sardjito Yogyakarta tidak signifikan secara statistik ($p = 0,434$; $r = -0,032$; $p = 0,402$; $r = 0,047$; $p = 0,208$; $r = 0,154$).

Kata kunci: *LUS*, *TFC*, pasien post operasi mayor, perawatan intensif.

ABSTRACT

Background: *Patients undergoing major surgery have the potential to experience massive bleeding and long duration of surgery. Perioperative fluid management in patients undergoing major surgery is important. Excessive administration of fluid can cause atrial natriuretic peptide release and iatrogenic glycocalyx / vascular endothelial junction dysfunction which can cause intravascular fluid shifting to the extravascular space. This fluid shifting can occur in the pulmonary interstitial space. LUS and TFC examination with ICON is considered suitable to assess EVLW.*

Objective: *To determine the correlation between the LUS score and TFC using ICON in post-operative major patients in the ICU.*

Method: *This study used a prospective observational research design with a cross sectional study design. The sample size was 30 adult post-major surgery patients who were treated in the ICU of Dr. Sardjito. The LUS score was obtained from ultrasound examination of the lungs using ultrasound brand Esaote SX331 and TFC was assessed with the ICON tool. Correlation analysis was conducted to determine the degree of correlation between LUS score and TFC.*

Result: *The sample of this study were 30 patients (male 12 patients, female 18 patients). Mean age 46.40 ± 12.30 years, P/F ratio $411,21 \pm 77,64$, AaDO₂ $121,20 \pm 53,4$, LUS score 3.30 ± 2.58 , and TFC 24.56 ± 10.30 . Fluid balance during operation $194,2 \pm 756,65$. The results of the Spearman correlation between LUS score and TFC showed that there was a positive and significant correlation between LUS score and TFC, $p < 0.001$ and $r = 0.703$. The results of the Spearman test for LUS score and P/F ratios, LUS score and AaDO₂, LUS score and fluid balance in the operating room showed no significant relationship ($p > 0.05$).*

Conclusions: *The correlation between LUS score and TFC in post-major surgery patients treated in the ICU, Dr. Sardjito Yogyakarta was statistically significant ($p < 0.001$) and the correlation was positive ($r = 0.703$). The correlation between the LUS score and the P/F ratio, LUS score with AaDO₂, and LUS score with fluid balance in the operating room in post-major surgery patients treated in the ICU of Dr. Sardjito Yogyakarta was not statistically significant ($p = 0.434$; $r = -0.032$; $p = 0.402$; $r = 0.047$; $p = 0.208$; $r = 0.154$).*

Keywords: *LUS, TFC, major postoperative patients, intensive care.*