

INTISARI

Latar belakang: Syok septik merupakan penyakit yang sering ditemukan pada perawatan di ICU. Evaluasi dan penanganan volume intravaskular merupakan tantangan utama dalam perawatan syok septik. Pada kegagalan sirkulasi akut, *passive leg raising* (PLR) merupakan sebuah tes sederhana yang dapat memprediksi kenaikan *cardiac output* seiring dengan ekspansi volume endogen. Akan tetapi, saat ini belum ada data mengenai seberapa jauh PLR dapat mempengaruhi perubahan *preload*. Oleh karenanya penelitian ini dilakukan untuk mengetahui ada tidak pengaruh PLR pada volume darah yang kembali ke jantung dengan cara melihat perubahan indeks distensibilitas IVC dan CO.

Metode: Penelitian ini menggunakan rancangan eksperimen “*pre-test and post-test design*”. Penelitian dilakukan di ICU RSUP Dr. Sardjito Yogyakarta dengan subyek 18 pasien syok septik. Dilakukan pengukuran DI_{IVC} dengan USG dan CO dengan kardiometri elektrik ICON dalam keadaan duduk 30^0 , kemudian dilakukan tindakan PLR dengan mengangkat tungkai bawah setinggi 45^0 dan data diambil kembali saat menit ke-2 PLR, setelah itu posisi pasien dikembalikan ke posisi semula.

Hasil: Terdapat penurunan indeks distensibilitas vena cava inferior (DI_{IVC}) sebesar 20,8% ($p=0,024$) dan kenaikan *cardiac output* (CO) sebesar 0,228 L/menit ($p=0,431$). Dari penelitian ini juga didapat peningkatan rerata diameter maksimal IVC sebesar 0,225 mm ($p = 0,004$), diameter minimal IVC 0,264 mm ($p = 0,001$), MAP 4,944 mmHg ($p = 0,009$) dan CVP 4,778 cmH₂O (0,001) saat menit ke-2 perlakuan PLR pada pasien syok septik.. Sedangkan untuk parameter lain seperti nadi, *cardiac index* (CI) dan *systemic vascular resistance* (SVR) tidak ada perubahan yang bermakna ($p > 0,05$).

Kesimpulan: Terdapat penurunan indeks distensibilitas vena cava inferior (DI_{IVC}) tanpa disertai peningkatan *cardiac output* (CO) terhadap perlakuan PLR pada pasien syok septik di ICU RSUP dr. Sardjito.

Kata kunci: Passive leg raising, syok septik, distensibilitas vena cava inferior, vena cava inferior, *cardiac output*, elektrik kardiometri

ABSTRACT

Background: *Septic shock is often found in ICU care. Evaluation and treatment of intravascular volume is a major challenge in the treatment of septic shock. In acute circulatory failure, passive leg raising (PLR) is a simple test that can predict increases in cardiac output along with endogenous volume expansion. However, there is currently no data on how far PLR can affect changes in preload. Therefore this study was conducted to determine how far the effect of PLR on venous return to the heart by looking at changes in distensibility indexes of IVC (DI_{IVC}) and cardiac output (CO).*

Methods: *This study uses an experimental design "pre-test and post-test design". The study was conducted at the ICU Dr. Sardjito Yogyakarta with the subject of 18 septic shock patients. DI_{IVC} measurements were performed with ultrasound and CO with ICON electric cardiometry in a seated state of 300, then the PLR was performed by lifting the lower limbs as high as 450 and data was retrieved at the 2nd minute of the PLR, after which the patient's position was returned to its original position.*

Results : *There was a decrease in inferior vena cava distention index (DI_{IVC}) by 20.8% ($p = 0.024$) and an increase in cardiac output (CO) by 0.228 L / min ($p = 0.431$). From this study also obtained an average increase in the maximum diameter of IVC by 0.225 mm ($p = 0.004$), minimum diameter of IVC 0.264 mm ($p = 0.001$), MAP 4.944 mmHg ($p = 0.009$) and CVP 4.778 cmH₂O (0.00001) at the 2nd minute PLR treatment in patients with septic shock. As for other parameters such as pulse, cardiac index (CI) and systemic vascular resistance (SVR) there were no significant changes ($p > 0.05$).*

Conclusion: *There was a significant decrease in inferior vena cava distensibility index (DI_{IVC}) during PLR treatment in septic shock patients. However, the increase in cardiac output (CO) was found but not statistically significant.*

Keywords: *Passive leg raising, septic shock, inferior cava vein distensibility index, cardiac output*