Peran left ventricular end diastolic volume index sebagai prediktor fluid responsiveness terhadap pemberian cairan resusitasi pada anak dengan renjatan = Left ventricular end diastolic volume index as predictor of fluid responsiveness in children with shock / Ahmad Bayu Alfarizi

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Abstrak

Latar belakang: Renjatan merupakan masalah utama di ruang emergensi dan rawat intensif anak. Resusitasi cairan pada renjatan hanya memberikan repons pada 50% pasien. Pemberian cairan yang berlebih akan meningkatkan morbiditas dan mortalitas. Indeks dinamis memiliki keterbatasan dalam memprediksi fluid responsiveness. Left Ventricular End Diastolic Volume Index (LVEDVI) belum banyak diteliti dan dapat mengatasi keterbatasan indeks dinamis.

Tujuan: Mengidentifikasi peran LVEDVI sebagai prediktor fluid responsiveness terhadap pemberian cairan resusitasi pada anak dengan renjatan.

Metode: Ini adalah penelitian uji diagnostik-potong lintang pada anak dengan renjatan di ruang emergensi dan rawat intensif anak RSUPN Cipto Mangunkusumo Juni hingga November 2018. Pengukuran LVEDVI dilakukan menggunakan USCOM dan dibandingkan dengan peningkatan isi sekuncup ≥15% setelah fluid challenge sebagai kriteria fluid responsive. Sampel dimasukkan ke dalam kelompok fluid responsive dan fluid nonresponsive.

Hasil: Dari 40 subyek penelitian, didapatkan 60 sampel fluid challenge. Terdapat 31 sampel di kelompok fluid responsive dan 29 sampel di kelompok fluid nonresponsive. Tidak terdapat perbedaan bermakna rerata LVEDVI pada kedua kelompok (p=0,161). Nilai AUROC LVEDVI 40,9% pada titik potong 68,95 mL/m², dengan sensitivitas 45,16% dan spesifisitas 44,83%.

Simpulan: Penelitian ini tidak dapat membuktikan LVEDVI dapat berperan sebagai prediktor fluid responsiveness.
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Background: Shock is a major problem in the Pediatric Emergency and Intensive Care Unit. Fluid resuscitation for shock only provides response in 50% of patients. Excessive fluid administration will increase morbidity and mortality. Dynamic indexes have limitations in predicting fluid responsiveness. Left Ventricular End Diastolic Volume Index (LVEDVI) has not been widely studied and can overcome the limitations of dynamic indexes.

Objective: To identify LVEDVI as a predictor of fluid responsiveness in children with shock.

Method: This was a cross-sectional diagnostic study in children with shock in the emergency room and pediatric intensive care unit of Cipto Mangunkusumo Hospital RSUPN from June to November 2018. The

LVEDVI measurements were performed using USCOM and compared with an increase in stroke volume ≥15% after fluid challenge as fluid responsiveness criteria. Sample then categorized into fluid responsive and fluid nonresponsive group.

Results: Of 40 subjects, 60 fluid challenge samples were obtained. There were 31 samples in the fluid responsive group and 29 in the fluid nonresponsive group. There was no significant mean difference of LVEDVI in the two groups (p=0.161). The AUROC of LVEDVI is 40,9% with cut off value of 68,95mL/m². The sensitivity and specificity are 45,16% and 44,83% respectively.

Conclusion: This study cannot prove LVEDVI can act as a predictor of fluid responsiveness.