

INTISARI

Latar belakang: Prosedur bedah jantung semakin berkembang dengan peningkatan hasil yang lebih baik. Meski demikian, pasien yang menjalani operasi jantung mempunyai risiko mortalitas dan morbiditas pada periode perioperatif. Obat vasoaktif dan inotropik banyak digunakan untuk membantu kerja jantung selama pembedahan. VIS (*Vasoactive Inotropic Score*) adalah skor yang dihitung dari dosis agen *vasoactive inotropik* yang diberikan dan mencerminkan tingkat kebutuhan penggunaan obat tersebut. VIS dapat menjadi parameter yang baik untuk menilai kondisi pasien pada periode awal pasca operasi. VIS yang tinggi menunjukkan kebutuhan yang lebih besar akan obat inotropik dan vasoaktif serta kondisi pasien yang lebih buruk.

Tujuan: Mencari hubungan antara VIS dengan kejadian mortalitas pasca operasi bedah jantung.

Metode: Penelitian ini adalah penelitian analitik observasional menggunakan desain kohort prospektif. VIS dihitung menggunakan dosis tertinggi obat vasoaktif dan inotropik yang diberikan selama 24 jam pertama pasca operasi. Hasil VIS digunakan untuk mencari hubungan mortalitas ICU dan morbiditas.

Hasil : Sejumlah 62 subjek penelitian memenuhi kriteria inklusi, tetapi terdapat 2 pasien yang *drop out*. Mayoritas subjek penelitian berjenis kelamin laki-laki, yaitu 33 pasien (55,0%) dengan rerata usia $44,70 \pm 15,64$ tahun. Mortalitas gabungan di ICU jantung sebanyak 4 (6,7%) terdiri dari 3 operasi katup (5%) dan 1 CABG (1,7%). sedangkan morbiditas 22 (36,7%) dengan aritmia sebagai morbiditas terbanyak. VIS signifikan berhubungan dengan mortalitas ICU, AUC 0,926 dengan *cut off* VIS > 49,5 memiliki OR 18 (IK 95% 1,66 - 195,22). VISmax juga berhubungan dengan morbiditas AUC 0,914 dengan *cut off* VIS > 13,5 memiliki OR 12,75 (IK 95% 3,59-45,22). Selain VIS, faktor komorbid, *CPB time*, *surgery time*, EF pasca operasi, TAPSE pasca operasi, dan *length of stay ICU* juga mempengaruhi mortalitas. Berdasarkan hasil analisis multivariat, faktor utama yang berpengaruh terhadap mortalitas adalah VIS yang tinggi.

Kesimpulan : Terdapat hubungan positif antara VIS terhadap mortalitas pasca operasi bedah jantung terbuka yang menggunakan mesin pintas jantung paru di RSUP Dr Sardjito.

Kata kunci: Operasi bedah jantung, *Vasoactive Inotropic Score (VIS)*, mortalitas, morbiditas.

ABSTRACT

Background: Cardiac surgical procedures are increasingly developing with improved outcomes. However, patients undergoing cardiac surgery have a risk of mortality and morbidity in the perioperative period. Vasoactive and inotropic drugs are widely used to assist the heart during surgery. VIS (Vasoactive Inotropic Score) is a score calculated from the dose of vasoactive inotropic agents given and reflects the level of need for the use of these drugs. VIS can be a good parameter to assess the patient's condition in the early postoperative period. High VIS indicates a greater need for inotropic and vasoactive drugs and a worse patient condition.

Objective : To find the relationship between Vasoactive Inotropic Score (VIS) and the incidence of post-cardiac surgery mortality.

Methods: This study is an analytical observational study using a prospective cohort design. VIS maximal was calculated using the highest doses of vasoactive and inotropic medications administered during the first 24 hours postoperatively. The VISmax results were used to investigate the relationship with ICU mortality and morbidity.

Results: A total of 62 research subjects met the inclusion criteria, but 2 patients dropped out. The majority of research subjects were male 33 (55.0%) with a mean age of 44.70 ± 15.64 years. Mortality in the cardiac ICU was 4 (6.7%) Combined mortality in the cardiac ICU was 4 (6.7%) consisting of 3 valve operations (5%) and 1 CABG (1.7%). while morbidity was 22 (36.7%) with arrhythmia as the largest morbidity. VIS is significantly associated with ICU mortality, with an AUC of 0.926 and a cut-off VIS > 49.5 , which has an OR of 18 (95% CI 1.66 - 195.22). VISmax is also associated with morbidity, with an AUC of 0.914 and a cut-off VIS > 13.5 , which has an OR of 12.75 (95% CI 3.59 - 45.22). In addition to VIS, factors such as comorbidities, CPB time, surgery time, postoperative EF, postoperative TAPSE, and length of ICU stay also affect mortality. Based on the results of multivariate analysis, the main factor influencing mortality was high VIS.

Conclusion: There is a positive relationship between VIS and mortality following open heart surgery using cardiopulmonary bypass at RSUP Dr. Sardjito.

Keywords: Heart surgery, Vasoactive Inotropic Score (VIS), mortality, morbidity.