Efektivitas Insersi Dini Pompa Balon Intra Aorta Terhadap Mortalitas Pasien Pasca Henti Jantung Karena Sindrom Koroner Akut: Kajian terhadap Laktat, Interleukin-6, Beklin-1 dan Kaspase-3 = The Effect of Intra Aortic Balloon Pump Early Insertion on Mortality in Post Cardiac Arrest Patients with Acute Coronary Syndrome: A Study of Lactate, Interleukin-6, Beclin-1, and Caspase-3

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Abstrak

<ins datetime="2019-04-13T20:14">Kebutuhan akan dukungan sirkulasi mekanik</ins><ins datetime="2019-04-29T16:00">secara dini</ins><ins datetime="2019-04-13T20:14">untuk meningkatkan perfusi organ harus dipertimbangkan</ins>dalam manajemen pasien pasca henti jantung. <ins datetime="2019-04-13T19:41">P</ins><ins datetime="2019-05-10T11:31">ompa </ins><ins datetime="2019-04-13T19:41">B</ins><ins datetime="2019-05-10T11:31">alon </ins><ins datetime="2019-04-13T19:41">I</ins><ins datetime="2019-05-10T11:31">ntra-</ins><ins datetime="2019-04-13T19:41">A</ins><ins datetime="2019-05-10T11:31">orta (PBIA)</ins><ins datetime="2019-04-13T19:41">merupakan alat bantu sirkulasi mekanik yang paling mudah dipakai dan tersedia di negara berkembang seperti Indonesia</ins><ins datetime="2019-04-13T20:15">.</ins>Tujuan penelitian ini adalah untuk mengetahui efektivitas insersi dini<ins datetime="2019-04-13T20:24">PBIA </ins>terhadap mortalitas pasien <ins datetime="2019-04-13T20:24">pasca </ins><ins datetime="2019-04-29T16:03">henti jantung</ins>karena <ins datetime="2019-05-10T11:31">sindrom koroner akut (</ins>SKA<ins datetime="2019-05-10T11:31">)</ins>. Penelitian uji klinis yang melibatkan 60 pasien<ins datetime="2019-05-10T12:35">ini</ins><ins datetime="2019-05-10T12:35">dilakukan pada </ins>pasca henti jantung karena SKA di <ins datetime="2019-05-10T11:32">dilakukan </ins>RSJPDH<ins datetime="2019-05-09T11:09">K</ins><ins datetime="2019-05-10T12:36">periode</ins><ins datetime="2019-05-09T11:08">Oktober 2017</ins>–<ins datetime="2019-05-09T11:08">Desember 2018</ins>K.<ins datetime="2019-05-09T11:09">Kriteria inklusi adalah semua pasien pasca henti jantung karena sindrom koroner akut</ins><ins datetime="2019-05-09T11:10">, berusia 18</ins>–<ins datetime="2019-05-09T11:11">75 tahun.</ins>Kriteria eksklusi adalah terdapat riwayat strokeberdasarkan anamnesis, pupil anisokor, sudah menggunakan PBIA sebelumnya, regurgitasi aorta, sindrom brugada dan congenital long QT.Pasien dirandomisasi menjadi kelompok pelakuan dan kontrol.<del datetime="2019-05-10T12:36">. </del>Pasien dibagi menjadi dua kelompok yaitu perlakuan (n= 30) dan kontrol (n =30). Kelompok perlakuan diberikan intervensi insersi PBIA sedini mungkin dalam 3 jam pertama setelah sirkulasi spontan kembali.<ins datetime="2019-05-10T12:44">Pemeriksaan kadar interleukin-6, </ins>bersihan laktat efektif (<ins datetime="2019-05-10T12:44">BLE</ins>)<ins datetime="2019-05-10T12:44">, </ins><ins datetime="2019-05-10T15:55">beklin</ins><ins datetime="2019-05-10T12:44">-1, </ins>k<ins datetime="2019-05-10T16:06">aspase</ins><ins datetime="2019-05-10T12:44">-3, curah jantung (CJ), VTI, TAPSE, fraksi ejeksi (FE), a-vO2 diff, dan ScvO2 dilakukan di jam ke-0 dan jam ke-6 pas</ins>c<ins datetime="2019-05-10T12:44">a kembali sirkulasi spontan.</ins>Luaran <ins

datetime="2019-05-10T11:32">primer </ins>yang dinilai adalah mortalitas rumah sakit<ins datetime="2019-05-10T12:46">.</ins>,<ins datetime="2019-05-10T12:46">Luaran</ins><ins datetime="2019-05-10T11:32">sekunder </ins><ins datetime="2019-05-10T12:46">yang dinilai </ins><ins datetime="2019-05-10T11:32">adalah</ins>perbaikan hemodinamik, dan marka apoptosis<ins datetime="2019-05-10T12:46">dan kemampuan</ins><ins datetime="2019-05-10T15:59">prediksi </ins><ins datetime="2019-05-10T16:00">beklin-1, kaspase-3, interleukin-6 dan laktat </ins>jam ke-0 <ins datetime="2019-05-10T16:00">terhadap kematian</ins>. Analisisregresi cox dilakukan untuk menilai kesintasan pasien di RS<ins datetime="2019-05-09T11:12">dengan prinsip intention-to treat</ins>. <ins datetime="2019-05-10T12:33">Sebanyak </ins><ins datetime="2019-05-10T12:34">60 pasien pasca henti jantung karena SKA, 30 di kelompok perlakuan dan 30 di kelompok kontrol</ins><ins datetime="2019-05-10T12:35">diikutsertakan dalam penelitian ini</ins><ins datetime="2019-05-10T12:34">.</ins>Mortalitas pada kelompok perlakuan adalah 18 (60%) pasien, sedangkan pada kelompok kontrol adalah 17 (56,67%) pasien. <ins datetime="2019-05-10T16:03"> (</ins><ins datetime="2019-05-10T16:04">[p</ins><ins datetime="2019-05-10T16:04">=</ins><ins datetime="2019-05-10T16:04">0,793; </ins><ins datetime="2019-05-10T16:05">hazard ratio 1,29; [IK] 95% 0,66</ins>–<ins datetime="2019-05-10T16:05">2,52). </ins>Tidak terdapat perbedaan kadar IL-6, BLE, beclin<ins datetime="2019-05-10T15:55">beklin</ins>-1, caspase<ins datetime="2019-05-10T16:07">k</ins><ins datetime="2019-05-10T16:06">aspase</ins>-3, curah jantung (CJ), VTI, TAPSE, fraksi ejeksi (FE), a-vO₂diff, dan ScvO₂di jam ke-6 pasca SSK antara dua kelompok.<ins datetime="2019-05-10T16:06">Laktat, </ins>IL-6<ins datetime="2019-05-10T16:06">, </ins><ins datetime="2019-05-10T16:08">dan </ins><ins datetime="2019-05-10T16:09">k</ins><ins datetime="2019-05-10T16:06">aspase-3 dapat memprediksi mortalitas pasien pasca henti jantung karena SKA, sedangkan Beklin-1 tidak dapat memprediksi kematian.</ins> Simpulan:Pemasangan PBIA dini tidakmemperbaiki mortalitas pasien SKA pasca henti jantung<ins datetime="2019-05-10T16:10">. </ins>.<ins datetime="2019-05-10T16:10">Laktat, I</ins>L<ins datetime="2019-05-10T16:10">-6, dan kaspase-3 dapat memprediksi mortalitas pasien pasca henti jantung karena SKA.</ins> <hr /> The need formechanical circulatory support to improve organ perfusion may be considered inthemanagement of post cardiac arrest syndrome patients. Intra-Aortic Balloon Pump (IABP) is the most available and convenient used mechanical circulation aid especially in developing countries such as Indonesia.<del datetime="2019-05-10T14:44">¹</del>This study aimed to find out whether early insertion of IABP can reduce in-hospital mortality, length of stay and death markers of cardiac arrest complicating acute myocardial infarction. A randomized trial conducted in National Cardiovascular Center Harapan Kita (NCCHK) Hospital from October 2017–December 2018. Inclusion criteria were all post cardiac arrest due to acute coronary syndrome (ACS) patients aged 18–75 years. Exclusion criteria were history of stroke, anisocoric pupil, previous IABP use, aortic regurgitation, brugada syndrome, and congenital long QT syndrome.The intevention group was given IABP inserted as early as possible in the first 3 hours after spontaneous circulation returned. Patients were randomized into two groups, intervention and controls. Assessment of interleukin-6, lactate clearence, beclin<ins datetime="2019-05-10T15:55">be</ins>c<ins datetime="2019-05-10T15:55">lin</ins>-1, caspasec<ins datetime="2019-05-10T16:06">aspase</ins>-3, cardiac output, VTI, TAPSE, ejection fraction (EF), a-vO2 Diff, and ScvO2 was done in first hour and 6 hours

afterreturn of spontaneous circulation (ROSC). Primary outcome was in-hospital mortality. Secondary outcome was improved hemodynamics, apoptotic markers, and predictive ability of beclin-1, caspase-3, IL-6 and lactate in first hour after ROSC to mortality. Cox regression analysis was performed to assess in-hospital survival with the intention-to-treat principle. A total of 60 post cardiac arrest due to ACS patients, 30 in intervention group and 30 controls included in this study. In hospital mortality of intervention group vs control was 18 (60%) vs.17 (56.67%) respectively <ins datetime="2019-05-10T16:03">(</ins><ins datetime="2019-05-10T16:04">[p</ins><ins datetime="2019-05-10T16:04">=</ins><ins datetime="2019-05-10T16:04">0</ins>.<ins datetime="2019-05-10T16:04">793; </ins><ins datetime="2019-05-10T16:05">hazard ratio 1</ins>.<ins datetime="2019-05-10T16:05">29; [</ins>CI<ins datetime="2019-05-10T16:05">] 95% 0,66</ins>–<ins datetime="2019-05-10T16:05">2</ins>.<ins datetime="2019-05-10T16:05">52)</ins>. There’s no difference in IL-6, lactate clearence, beclin<ins datetime="2019-05-10T15:55">be</ins>c<ins datetime="2019-05-10T15:55">lin</ins>-1, caspasec<ins datetime="2019-05-10T16:06">aspase</ins>-3, cardiac output, VTI, TAPSE, ejection fraction (EF), a-vO₂Diff, and ScvO₂in 6 hours after ROSC between two groups. Lactate, IL-6, and caspase-3 predicts mortality of post cardiac arrest due to ACS patients while beclin-1 does not. Conclusion:Early insertion of IABP is not improvemortality outcome of post cardiac arrest complicating acute myocardial infarctionpatients. Lactate, IL-6, and caspase-3 predicts mortality of post cardiac arrest due to ACS patients.