

Model Prediksi Gangguan Ginjal Akut pada Pasien Sirosis Hati yang Dirawat di RSUPN Cipto Mangunkusumo = Prediction Model of Acute Kidney Injury on Cirrhosis Patients Hospitalized in RSUPN Cipto Mangunkusumo

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Abstrak

Latar Belakang: Gangguan ginjal akut sering terjadi pada penderita sirosis hati dan berhubungan dengan meningkatnya mortalitas. Model prediksi terjadinya gangguan ginjal akut yang dapat dihitung saat masuk perawatan diharapkan dapat menemukan pasien yang memiliki resiko sehingga dapat dilakukan upaya mencegah terjadinya gangguan ginjal akut.

Tujuan: Penelitian ini dilakukan untuk mengetahui hubungan antara perdarahan saluran cerna, riwayat parasintesis besar, skor MELD, sepsis, peritonitis bakterial spontan, kadar albumin serum, kadar hemoglobin dan rasio netrofil terhadap limfosit dengan terjadinya gangguan ginjal akut pada pasien sirosis hati dan membuat suatu model prediksi terjadinya gangguan ginjal akut pada pasien sirosis hati.

Metode: : Analisis data dilakukan terhadap 209 pasien sirosis hari yang dirawat inap di RSUPN Cipto Mangunkusumo dari tanggal 1 January 2019 hingga 31 December 2019. Gangguan ginjal akut didefinisikan dengan terjadinya peningkatan kadar kreatinin serum 0.3 mg/dL dalam 48 perawatan.

Hasil: Terdapat 45 pasien (21,5%) mengalami gangguan ginjal akut.. rasio netrofil terhadap limfosit ($p<0.001$), skor MELD ($p<0.001$) and kadar albumin serum ($p<0.001$) berhubungan dengan terjadinya gangguan ginjal akut. Rasio netrofil limfosi lebih dari 8 (nilai prediksi 2), kadar bilirubin total serum lebih dari 1,9 (nilai prediksi 2) dan kadar albumin serum kurang dari 3(nilai prediksi 1) merupakan nilai batas untuk prediksi. Skor prediksi 4 dapat menjadi prediktor terjadinya gangguan ginjal akut pada pasien sirosis hati dengan sensitifitas 97,3%.

Simpulan: Rasio netrofil terhadap limfosit, skor MELD, kadar albumin serum berhubungan dengan terjadinya gangguan ginjal akut pada penderita sirosis hati yang dirawat inap.Suatu sistem skor dengan menggunakan rasio netrofil terhadap limfosit, kadar bilirubin total serum dan kadar albumin serum merupakan prediktor yang dapat digunakan untuk prediksi terjadinya gangguan ginjal akut ini.

.....Background : Development of acute kidney injury (AKI) is common and is associated with poor outcomes. A risk prediction score combining values easily measured at admission could be valuable to stratify patients for prevention, monitoring and early intervention, ultimately improving patient care and outcomes.

Objective: This study aimed to determine association of gastrointestinal bleeding history, large paracentesis history, MELD score, sepsis, spontaneous bacterial peritonitis, serum albumin level, hemoglobin level and netrophyl lymphocyte ratio for development of acute kidney injury in cirrhosis patients and to know the prediction score for the development of AKI in hospitalized cirrhosis patients

Methods: A cross-examined the data from a retrospective analysis of 209 patients with cirrhosis admitted to the Cipto Mangunkusumo Hospital from January 2019 to December 2019. AKI was defined as an increase in serum creatinine 0.3 mg/dL within 48 hours from baseline. A receiver operating characteristic (ROC) curve was produced to assess the discriminative ability of the variables. Cutoff values were defined as those

with highest validity. The final AKI risk score model was assessed using the ROC curve.

Results: A total of 45 patients (21,5%) developed AKI. Higher NLR ($p < 0.001$), Model of End-stage Liver Disease (MELD) ($p < 0.001$) and lower serum albumin level ($p < 0.001$) were independently associated with AKI. Finding the prediction score of acute kidney injury, cut off values with the highest validity for predicting AKI were determined and defined as 8 for the neutrophil lymphocyte ratio, 1,9 for total bilirubine serum and 3 for serum albumin level. The risk score was created allowing 2 points if the netrophyl lymphocyte ratio is higher than 8, 2 point if the serum total bilirubine is higher than 1,9 and 1 point if the serum albumin is lower than 3. The AUROC curve of the risk prediction score for AKI was 0.842. A risk score of 4 points predicts AKI in cirrhotic patients with a sensitivity of 97,3%.

Conclusions: The netrophyl lymphocyte ratio, MELD score and albumin level are associated with the development of AKI in hospitalized cirrhosis patients. A score combining netrophyl lymphocyte ratio, serum bilirubin and albumin level demonstrated a strong discriminative ability to predict AKI in hospitalized cirrhotic patients