KESESUAIAN SKOR AMAP, RASIO GGT/AST, DAN KADAR GGT-II TERHADAP KOMBINASI PEMERIKSAAN USG DAN KADAR AFP UNTUK SKRINING KARSINOMA SEL HATI

ABSTRAK

Latar Belakang: Karsinoma sel hati adalah kanker yang terbentuk di sel hati, 70-90% pasien memiliki faktor risiko penyakit hati kronik dan sirosis hati. Skrining yang memadai dibutuhkan untuk menurunkan tingginya angka mortalitas karsinoma sel hati. Kombinasi pemeriksaan USG dan kadar AFP memiliki keterbatasan sebagai modalitas skrining, sehingga petanda berbasis pemeriksaan darah seperti skor aMAP, rasio GGT/AST, dan kadar GGT-II digunakan sebagai standar baru untuk skrining karsinoma sel hati

Tujuan: Menilai kesesuaian skor aMAP, rasio GGT/AST, kadar GGT-II terhadap kombinasi pemeriksaan USG dan kadar AFP untuk skrining karsinoma sel hati.

Metode: Penelitian observasional analitik *cross-sectional* dilakukan terhadap 53 pasien penyakit hati kronik dan atau sirosis hati yang dilakukan skrining karsinoma sel hati menggunakan kombinasi pemeriksaan USG dan kadar AFP di RSUP Dr. Kariadi Semarang. Sampel darah diambil untuk pemeriksaan kadar AST, kadar bilirubin, kadar GGT, kadar AST, jumlah trombosit, dan kadar GGT-II. Analisis menggunakan uji diagnostik dengan kurva *Receiver Operating Characteristic* (ROC) digunakan untuk menentukan *cut-off* skor aMAP, rasio GGT/AST, dan kadar GGT-II terhadap status suspek karsinoma sel hati.

Hasil: Kurva ROC skor aMAP menunjukkan AUC 0,905 (95% CI, p <0,001) dengan nilai *cut-off* 50 memiliki sensitivitas 100%, spesifisitas 43,4%, nilai duga positif 69,76%, dan nilai duga negatif 100%. Kurva ROC rasio GGT/AST menunjukkan AUC 0,815 (95% CI, p <0,001) dengan nilai *cut-off* 1,05 memiliki sensitivitas 80%, spesifisitas 79,1%, nilai duga positif 83,3% dan nilai duga negatif 76%. Kurva ROC kadar GGT-II menunjukkan AUC 0,876 (95% CI, p <0,001) dengan nilai *cut-off* 92,45 pg/mL memiliki sensitivitas 83%, spesifisitas 75%, nilai duga positif 81,25% dan nilai duga negatif 78,26%.

Kesimpulan: Skor aMAP memiliki sensitivitas 100% dan spesifisitas 43,4%, rasio GGT/AST memiliki sensitivitas 80% dan spesifisitas 79,1%, dan kadar GGT-II memiliki sensitivitas 83% dan spesifisitas 75% terhadap kombinasi pemeriksaan USG dan kadar AFP untuk skrining karsinoma sel hati

Kata Kunci: *Karsinoma sel hati, skor aMAP, rasio GGT/AST, GGT-II, skrining*

THE CONCORDANCE OF aMAP SCORE, GGT/AST RATIO, AND GGT-II LEVELS WITH COMBINED ULTRASOUND EXAMINATION AND AFP LEVELS FOR HEPATOCELLULAR CARCINOMA SCREENING

ABSTRACT

Background: Hepatocellular carcinoma is a cancer that forms in the liver cells, with 70-90% of patients having risk factors for chronic liver disease and cirrhosis. Adequate screening is needed to reduce the high mortality rate of hepatocellular carcinoma. The combination of ultrasound examination and AFP levels has limitations as a screening modality, so blood-based markers such as aMAP score, GGT/AST ratio, and GGT-II levels are used as new standards for hepatocellular carcinoma screening.

Objective: To assess the suitability of aMAP scores, GGT/AST ratio, GGT-II levels in relation to combination of ultrasound examinations and AFP levels for hepatocellular carcinoma screening.

Method: A cross sectional analytical observational study was conducted on 55 patients with chronic liver disease and/or liver cirrhosis who underwent screening for hepatocellular carcinoma using ultrasound examination and AFP levels at Dr. Kariadi General Hospital in Semarang. Blood samples were taken to examine albumin levels, bilirubin levels, GGT levels, AST levels, platelet count dan GGT-II levels. Analysis using diagnostic tests with receiver operating characteristic (ROC) curve was used to determine the cut-off for aMAP score, GGT/AST ratio, and GGT-II levels for suspected hepatocellular carcinoma.

Results: The ROC curve for the aMAP score shows an AUC of 0,905 (95% CI, p <0,001) with cut-off value of 50, sensitivity of 100%, specificity of 43,4%, positive predictive value of 69,76%, and negative predictive value of 100%. The ROC curve for the GGT/AST ratio shows an AUC of 0,815 (95% CI, p <0,001) with cut-off value of 1,05, sensitivity of 80%, specificity of 79,1%, positive predictive value of 83,3%, and negative predictive value of 76%. The ROC curve for GGT-II levels showed an AUC of 0,876 (95% CI, p <0,001) with cut-off value of 92,45, sensitivity of 83%, specificity of 75%, positive predictive value of 81,25%, and negative predictive value of 78,26%.

Conclusion: The aMAP score has a sensitivity of 100%, and specificity of 43,4%, the GGT/AST ratio has a sensitivity of 80%, and specificity of 79,1%, and GGT-II levels have a sensitivity of 83%, and specificity of 75% compared to the combination of ultrasound examination and AFP levels for screening hepatocellular carcinoma.

Keywords: Hepatocellular carcinoma, aMAP score, GGT/AST ratio, GGT-II, screening