ABSTRAK

Analisis Profil Nilai *Signal Intensity Ratio* (SIR) Pada Sekuen *In-Phase Opposed-Phase* MRI Abdomen Kasus Tumor Fokal Liver

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Sekuen *In-Phase Opposed-Phase* merupakan sekuen yang sensitif terhadap keberadaan lemak di liver. Nilai *signal intensity ratio* (SIR) pada sekuen tersebut dapat mengevaluasi tingkat keganasan tumor fokal liver. Beberapa penelitian membuktikan bahwa *cut off point* nilai SIR memiliki tingkat akurasi, sensitivitas dan spesifitas yang baik. Tujuan dari penelitian ini adalah mengetahui profil nilai *signal intensity ratio* (SIR) pada sekuen *in-phase opposed-phase* untuk kasus tumor fokal liver. 45 sampel terbagi atas 27 sampel tumor fokal liver ganas dan 18 sampel tumor fokal liver jinak. Perhitungan nilai SIR diperoleh dari hasil bagi nilai rerata tumor solid pada *in-phase* terhadap *opposed-phase* dengan menempatkan ROI di area solid tumor. Hasil dari penelitian ini menunjukkan bahwa nilai *signal intensity ratio* (SIR) memiliki *cut off point* 0.9863, sensitivitas 81.4%, spesifitas 77.8%, dan akurasi 80%. Dari hasil tersebut nilai SIR dapat dijadikan sebagai metode evaluasi non-invasif untuk membedakan tingkat keganasan tumor fokal liver.

Kata Kunci: SIR, *In-phase Opposed-phase*, Tumor Fokal Liver, MRI Abdomen

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ABSTRACT

Profile Analysis of Signal Intensity Ratio (SIR) Value in Focal Liver Tumor of In-Phase Opposed-Phase Abdominal MR

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In-Phase Opposed-Phase Sequence is sensitive to the presence of fat in the parenchymal liver. The value of signal intensity ratio (SIR) in those sequences can evaluate the characteristic of focal liver tumor. Several studies have shown that the cutoff point of SIR values have good accuracy, sensitivity and specificity. The aim of this study was to determine the profile of signal intensity ratio (SIR) value in the in-phase opposed-phase sequence for the focal liver tumors. Of 45 focal tumor liver samples including 27 malignant and 18 benign samples. The SIR value calculation was obtained from the quotient of the mean value of solid tumors in the in-phase versus opposed-phase by placing the region of interest (ROI) in the solid tumor area. The result of this study indicates that the signal intensity ratio (SIR) value has a cutoff point, sensitivity, specificity, accuracy are 0.9863, 81%, 77,8%, 80% in respectively. In conclusion, the SIR value could be used as a non-invasive method to differentiate the focal liver tumor.

Keywords: SIR, *In-phase Opposed-phase*, Focal Liver Tumors, *Abdominal MR*

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