Treatment response monitoring of chronic Hepatitis B patients using transient elastography and Aspartate Aminotransferase-to-Platelet Ratio Index (APRI) / Ignatius R Tenggara, C Rinaldi Lesmana, Rino A Gani

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Abstrak

Background: Hepatitis B is endemic in Indonesia and treatment response need to be monitored during and after antiviral therapy. Liver stiffness measurement and alanine aminotransferase to platelet ratio index (APRI) are noninvasive method to detect liver fibrosis available in Indonesia. However, little is known about their ability to evaluate treatment response in chronic hepatitis B (CHB) patients in Indonesia. This study aimed to investigate liver stiffness changes by transient elastography (TE) and APRI before and after one year oral antiviral treatment in CHB patients and the correlation between TE and APRI.

Methods: this study was retrospective cohort on CHB patients in CiptoMangunkusumo Hospital, Jakarta who uderwent treatment between January 2012 and December 2014. Patients received oral antiviral treatment with newer nucleoside analogues (entecavir or telbivudine) for at least one year. TE and APRI were obtained before and after treatment. TE and APRI reductions were analyzed statistically with Spearmans test.

Results: a total of 41 patients were enrolled in this study. Median liver stiffness value was significantly reduced from 10.8 to 5.9 kPa after oral antiviral treatment ($p<0.001$, Wilcoxons test). Median APRI was also significantly reduced from 1.13 to 0.43 after treatment ($p<0.001$, Wilcoxons test). The correlation between liver stiffness and APRI before treatment was weak ($r=0.40$), but it was strong after treatment ($r=0.73$).

Conclusion: the liver stiffness measured with transient elastography and APRI significantly decreased after one year of antiviral treatment in chronic HBV patients. There was a significant correlation between TE and APRI after one year of treatment.