Decrease of Grip Strength is Associated with Progression of Sleep Disturbance in Chronic Liver Diseases

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October 24, 2020

Abstract

Background and aims: The causal relationship between sarcopenia and sleep disorder in patients with chronic liver disease (CLDs) is unclear. We aimed examine the influence of sarcopenia-related factors (grip strength (GS) and muscle mass) on the progression of sleep disorder in patients with chronic liver disease (n=182, 46 cirrhotic cases, median age=64 years). Methods: Sleep quality was evaluated by the Japanese version of Pittsburgh Sleep Quality Index (PSQI-J). PSQI-J >6 points was defined as sleep disorder. In all analyzed patients, evaluation using PSQI-J questionnaire was performed twice or more during the follow-up period. Time interval from the date of baseline PSQI-J and the first confirmed date of elevation of PSQI-J score was calculated. Our primary endpoint was the elevation of PSQI-J score compared to the baseline PSQI-J score. GS decline was diagnosed with a GS of <26 kg for male and <18 kg for female. Loss of muscle mass was diagnosed by a skeletal muscle index of <7.0 kg/m2 for male and <5.7 kg/m2 for female on bioelectrical impedance analysis. Results: The median PSQI-J score was 5. PSQI-J >6 points at baseline was found in 83 patients (45.6%). In patients with GS decline (n=48), the 3-year cumulative elevation rate of PSQI-J score was 60.6%, while in patients with SMI decline (n=64), the 3-year cumulative elevation rate of PSQI-J score was 60.6%, while in patients with SMI non-decline, that was 43.4% (P=0.1822). On the multivariate analysis of factors associated with the elevation of PSQI-J score, only GS decline (P=0.0002) was a significant factor. Conclusions: Reduced GS rather than loss of muscle mass is independently associated with an elevated risk for the progression of sleep disorder in CLD patients.

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Follow up years





Figure 2





