

Sleep quality, risk of obstructive sleep apnea and clinical variables in patients with liver cirrhosis.

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Abstract

The proportion of patients with poor quality sleep, excessive daytime sleepiness and high risk for obstructive sleep apnea syndrome (OSAS) was high among the participants. We emphasize that the association between poor sleep and high risk for OSAS highlights the importance of investigating the presence of the syndrome among these individuals, even in the absence of ascites and signs of or suspected encephalopathy.

Key words:

Hepatic encephalopathy, disorders of excessive somnolence, sleep apnea syndrome.

Introduction

People with liver cirrhosis present impairment of sleep quality and patterns with disease progression^{1,2}. Less is known about the initial stages of the disease, when hepatic encephalopathy is not apparent³. Our objectives were to identify the prevalence of poor sleep quality, daytime sleepiness and high risk for obstructive sleep apnea (OSA) in adults with liver cirrhosis, classification Child-Pugh A; the association between these variables; and possible correlation between these variables and serum albumin levels, bilirubin, alanine aminotransferase and prothrombin time.

Results and Discussion

Cross sectional and descriptive study developed with outpatients of a university hospital in Campinas (SP), southeastern Brazil. We used four instruments: a questionnaire for socio-demographic and health characterization, the Pittsburgh Sleep Quality Index (PSQI), the Berlin Questionnaire and the Epworth Sleepiness Scale, and reviewed hospital records for biochemical and hematological variables. Data were analyzed by descriptive statistics; Mann-Whitney test; Spearman Rank Correlation Test. The value of $p < 0.05$ ($\alpha=5.0\%$) was adopted as the critical level for all tests. The study was approved by the Research Ethics Committee through the Plataforma Brasil under the CAAE number: 38455414.6.0000.5404.

The study included 92 patients (85.9% male), average age 60.9 (± 8.3) years, 54.3% with cirrhosis of alcoholic etiology. The prevalence of poor sleep quality, excessive daytime sleepiness and high risk for OSA is show on Figure 1. Sleep patterns for participants, according to the risk of OSA, are presented in Table 1. We found a significant association ($p=0.003$) between high risk for OSA and higher scores of PSQI. No significant correlations were found between biochemical variables, prothrombin time and sleep quality, daytime sleepiness and high risk for OSA. The association between poor sleep and high risk for OSAS highlights the importance of investigating the presence of the syndrome among these individuals, even in the absence of ascites and signs of or suspected encephalopathy. It is essential to identify the need to intervene in this population, instituting early treatment for cases of OSAS effectively present and seeking to reduce the risk factors in individuals without the syndrome.

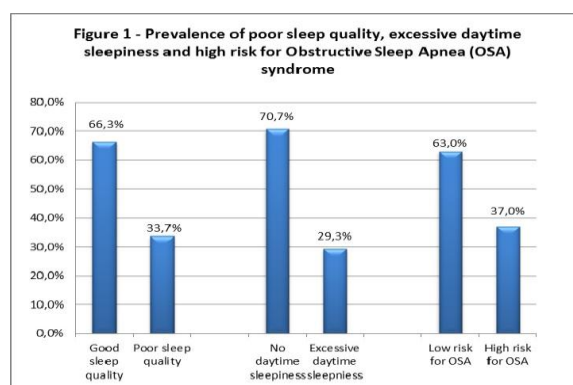


Table 1 - Sleep patterns for patients with low and high risk for Obstructive Sleep Apnea (OSA) Syndrome

Sleep patterns	Low risk for OSAS			High risk for OSAS		
	Mean	SD	Median	Mean	SD	Median
Bedtime (hour)	22:06	01:37	22:00	22:12	01:32	22:00
Wake up time (hour)	06:24	02:33	06:00	06:42	01:45	06:30
Sleep latency (minutes)	14.4	21.8	10.0	23.9	21.6	15.0
Sleep lenght (minutes)	7.4	1.5	8.0	7.7	1.6	7.5
Efficiency (%)	91.2	14.7	96.5	89.1	13.2	94.0
Time in bed (minutes)	7.9	1.6	8.0	8.5	1.7	8.5

Conclusions

There is a significant prevalence of poor sleep quality, excessive daytime sleepiness and high risk for OSA in patients with compensated liver cirrhosis. Sleep quality is significantly worse for patients with high risk for OSA, compared to those with low risk. Our results stress the importance of the early start of monitoring these patients about their sleep patterns.

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¹ Teodoro VV, Júnior MAB, Lucchesi LM, Cavignolli D, Mello MT, et al. Polysomnographic sleep aspects in liver cirrhosis: A case control study. *World J Gastroenterol.* 2013; 19(22):3433-3438

² Mabrouk AA, Nooh MA, Azab NY, Elmahallawy II, Elshenawy RHM. Sleep pattern changes in patients with cirrhosis. *Egypt J Chest Dis Tuberc.* 2012; 61:447-451

³ Gencdal G, Gunsar F, Meral CE, Salman E, Gürsel B, Oruç N, et al. Diurnal changes of critical flicker frequency in patients with liver cirrhosis and their relationship with sleep disturbances. *Dig Liver Dis.* 2014; 46:1111-1115.