EVALUATION OF SLEEP QUALITY IN HEMODIALYSIS PATIENTS USING WRIST ACTIGRAPHY

Jelena Pavinic[1], Marius Miglinas[1], Laurynas Rimsevicius[1], Gediminas Aucina[2], Saulius Mikenas[2]

[1] Vilnius University, Hospital Santaros Klinikos, Vilnius, Lithuania [2] Vilnius University, Faculty of Medicine, Vilnius, Lithuania

INTRODUCTION

Patients with end-stage renal disease (ESRD) have more sleep disturbances than the general population and sleep quality is a subject of growing interest to physicians caring for haemodialysed patients.

PURPOSE

To investigate differences between sleep quality variables before and after hemodialysis (HD) and in long-term versus short-term HD patients using wrist actigraphy.

MATERIALS AND METHODS

Cross-sectional study enrolled 15 patients with ESRD undergoing thrice-weekly in-center HD between September 2016 and December 2016. Patients wore a wrist actigraph for two nights. Measurements of total sleep time (TST), sleep efficiency (SE), sleep onset latency (SOL), wake after sleep onset (WASO) and fragmentation index (FI) were derived from wrist actigraphy. Sleep outcomes were analyzed using nonparametrical (Mann-Whitney U test) and t test with SPSS v23 statistical package.

RESULTS

Wrist actigraphy was performed in 15 patients, 13 (86.6%) of them were males, their mean age was 59.7±13.69 years. Mean TST and SE were greater during the night after HD than before it: 359.4±114.27 min vs. 315.9±149.04 min (Fig.1) and 71.6±18.53 % vs. 68.8±24.06 % (Fig.2), but there were no significant differences (p=0.378, p=0.756). Before HD, patients required a shorter period of time to fall asleep, SOL was 36.8±44.45 min before and 46.0±58.95 min after HD (p=0.983) (Fig.1). Despite the greater SE during the night after HD, FI and WASO (Fig.1) at that time were slightly, but not significantly higher 35.0±16.89 vs. 31.2±17.36 and 72.6±60.37 min vs. 52.3±36.05 min (p=0.544, p=0.206).
According to HD duration, patients were divided into long-term (>12 months, mean duration 62.4±43.69 months) and short-term (≤12 months, 5.4±2.73 months) groups. TST in the short-term group was greater 390.7±112.46 min vs. 291.0±113.95 min (p=0.112) (Fig.3), also SE was slightly better in the short-term group 76.0±17.71 % vs. 65.2±22.97 % (p=0.334) (Fig.2), however these results were not statistically significant. In the short-term group patients felt asleep almost two times faster than in long-term group, i.e. SOL was 26.5±21.50 min vs. 54.5±47.64 min (p=0.271) (Fig.3). WASO and FI appeared to be greater but not statistically significant in short-term HD patients: 73.7±49.14 min vs 52.7±21.87 min (Fig.3) and 33.9±18.04 vs. 32.7±11.03 (p=0.643, p=0.843).

Fig.1. Comparision of sleep variables between different nights

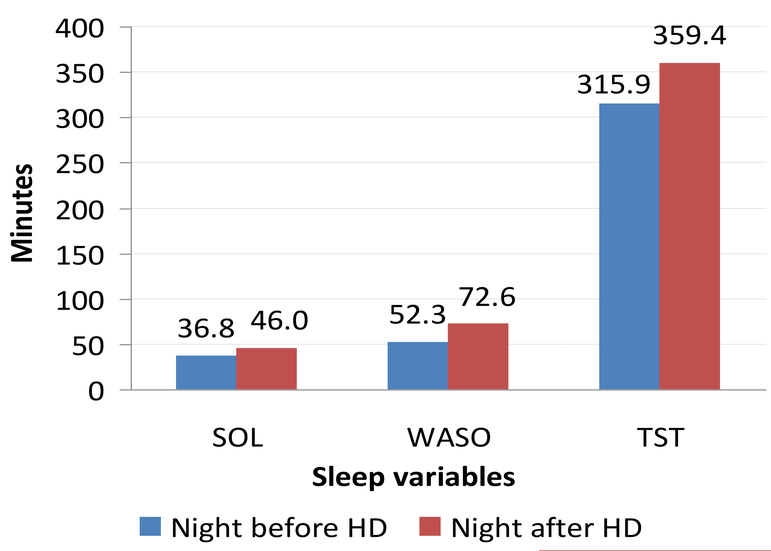
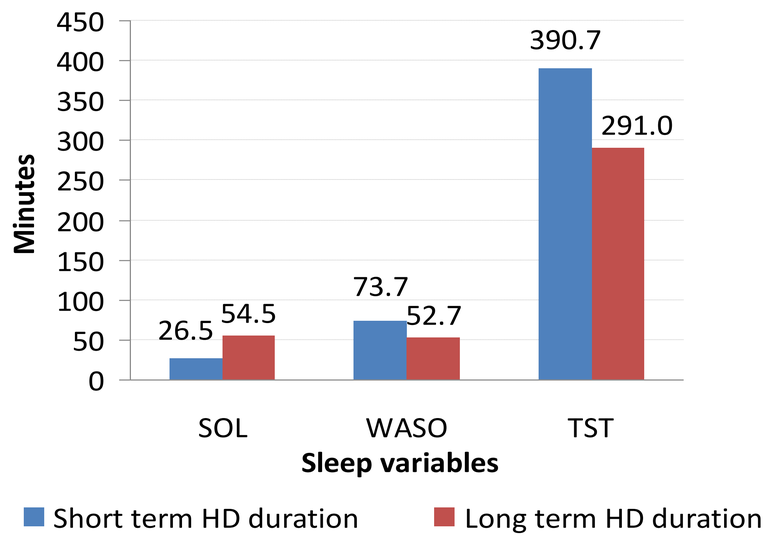


Fig.3. Comparision of sleep variables according to HD duration



CONCLUSIONS

There were no significant differences in sleep quality on dialysis or non-dialysis nights. Sleep quality in short-term HD patients appeared to be better than in long-term group, but a bigger study population is needed to prove this.

54 ERA
762--MP
Dialysis - Health service
Jelena Pavinic
DOI: 10.3252/pso.eu.54ERA.2017
ePosters supported by F. Hoffmann- La Roche Ltd.
PosterSessionOnline.com