

Sleep-related breathing disorders

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Comparison of the structure and microstructure of REM sleep in patients with obstructive sleep apnea, central sleep apnea and non-organic sleep disorders

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Introduction

There are different causes for sleep disturbances which show tiredness, fatigues, loss of concentration and productivity during the day.

Whereas it is shown that there is a modified microstructure of sleep in some psychiatric and neurological diseases, the microstructure of REM sleep in patients with sleep apnea is largely unexplored.

This retrospective study focused on differences in REM sleep microstructure in patients with obstructive and central sleep apnea compared to each other and with non-organic sleep disorders.

Methods

The study compared data of polysomnographic records of 105 patients with obstructive sleep apnea (n=35), central sleep apnea (n=35) and non-organic sleep disorders (n=35). The collective was represented by patients who spent two nights successively in an interdisciplinary sleep lab for diagnostic reasons. The analysis of the polysomnography occurred manually.

Patients who took sleep medication or suffered from psychiatric diseases were excluded.

It was looked for REM sleep latency, REM sleep density and quantity of REM sleep, as well as some more parameters.

Results

In the analysis of the data, the median REM density was increased in patients with obstructive sleep apnea and non-organic sleep disorders compared to patients with a central sleep apnea syndrome.

There also was a higher percentage of REM sleep related to the Total Sleep Time in groups of people with obstructive sleep apnea and non-organic sleep disorders.

The highest REM sleep latency was shown in patients with OSAS, the lowest in people with non-organic sleep disorders.

There was no difference between the groups in the number of REM sleep phases during night.

Conclusion

There were some parallels related to different parameters of REM microstructure in the groups of people with obstructive sleep apnea and those with non-organic sleep disorders.

This could be reason for the similarity of psychiatric symptoms in both groups. An increased REM density, as well as a high percentage of REM sleep during the night could be predictors for depressive mood, regardless of the underlying disease.