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THE EVALUATION OF QUALITY OF LIFE AT PATIENTS WITH OBSTRUCTIVE SLEEP APNEA SYNDROME

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Abstract

There have been made polygraphic registrations for 20 patients believed to be suffering from breathing disorders during sleep. The patients were also subjected to a detailed ENT clinical exam and nasal endoscopy. The patients filled a form for the polygraphic laboratory and a questionnaire for ESS auto-evaluation. Breathing problems during sleep, including sleep apnea, are a common pathology being diagnosed through the adverse effects it has on the quality of life. These effects can be quantified by the sleep deprivation index on the Epworth Scale (ESS). The risk of the patients to fall asleep during the daytime has a great implication on the quality of life. The values range between 0 and 24 and can be correlated with the index of apnea-hypopnea characterizing sleep apnea. This paper wants to synthesize a study on a group of patients with sleep apnea. This study correlated the data obtained from the polysomnography registration to the ones given by the specific form filled with the patients. In the end the AHI index value was related to the ESS index. The ENT pathology determining to some persons sleep apnea is also affecting the quality of life.

Keywords: obstructive sleep apnea, Epworth Sleepiness Scale, AHI Index, Quality of life.

Introduction

The quality of life for the obstructive sleep apnea patients is expressed by the daytime sleepiness, decreased awareness, fatigue, signs of hypoxia, all leading to

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a disordered sleep interrupted by small periods of awakening. Obstructive sleep apnea affects the quality of life from many points of view, this fact being unexplored in the researches made in specific labs. The literature dates present that the sleep respiratory disorder affects patients aged between 40 and 60 years old, especially males, the females being frequently involved after the installation of menopause. Establishing a relation between the quality of life and the health status, a big step is to complete evaluation of this disease's impact on the patient, as well as to decide therapeutic options. Obesity (expressed by the BMI weight index, alcohol consumption, and smoking) associated (Miguel ET AL., 2006; Janson et al., 1994) with obstructive sleep apnea syndrome can determine the development of high blood pressure, diabetes, enuresis, as well as sexual dysfunction, all affecting the quality of life.

Obstructive sleep apnea (OSA) associated with these pathologies made the correlation with quality of life indices even more important. In the quality of life evaluation, questionnaires are used to determine very important elements, such as: hyper somnolence, daytime symptoms, nocturnal symptoms, emotions and social interaction (Johns, 1991). Between questionnaires that evaluate the quality of life there can be found the Epworth Sleepiness Scale (ESS). ESS represents a personal questionnaire to express the sleepiness degree in common situations. The score can be situated on a scale from 0 to 24 (Johns, 1993; Schäfer, 1996)

The normal values of ESS are 2-10. The ESS aim is personal patient evaluation, so that one declares on his own situations past in the last period of time and how that person perceived that events.

The questions are: *How likely are you to doze off or fall asleep in the following situations:*

1. Sitting and reading
2. Watching TV
3. Sitting inactive in a public place (e.g a theater, cinema or in a meeting)
4. As a passenger in a car for an hour without a break
5. Lying down to rest in the afternoon
6. Sitting and talking to someone
7. Sitting quietly after a lunch without alcohol
8. In a car, while stopped for a few minutes in traffic

For evaluation the patient has to choose between these situations, on a scale from 0 to 3.

~ 0 = that event never happened

~ 1 = that event has a low chance to happen

~ 2 = the event has a medium chance to happen

~ 3 = the event has a big or very big chance to happen

The final score is calculated by summing all marks resulted by self evaluation of the of event's probability to happen. The questionnaire evaluates the medical history of the patient and the quality of life, and it aims to define the functional impact of the respiratory events during sleep in obstructive sleep apnea patients. If the answers resulted from the standard questionnaires are systematically evaluated, there can be identified different risk groups. Sleepiness represents the common symptom of obstructive sleep apnea syndrome, and can be characterized by subjective means-Stanford Scale and Epworth Scale. The Epworth Scale is frequently used because it is more practical (Randerath, Sanner, & Somers, 2006).

Material and Method

Our study aims to demonstrate a possible correlation between the quality of life indices and the degree of sleep apnea presented by the Apnea-Hypopnea Index (AHI). The daytime sleepiness evaluation questionnaire was based on the translations made from bibliography, but its completion became a problem because the investigated patients were poorly informed and weakly documented. For this study, the patients were directed to the somnography department in a sleep clinic by colleagues from different specialties. The investigation of patients with suspicion of obstructive sleep apnea syndrome implied a complete ENT examination- based on nasal endoscopy and a specific questionnaire - and cephalometric analysis and self evaluation questionnaire- the ESS. All these evaluations were followed by polysomnographic test recording.

The patients presenting a sleep disorder were divided into four groups by means of AHI as follows:

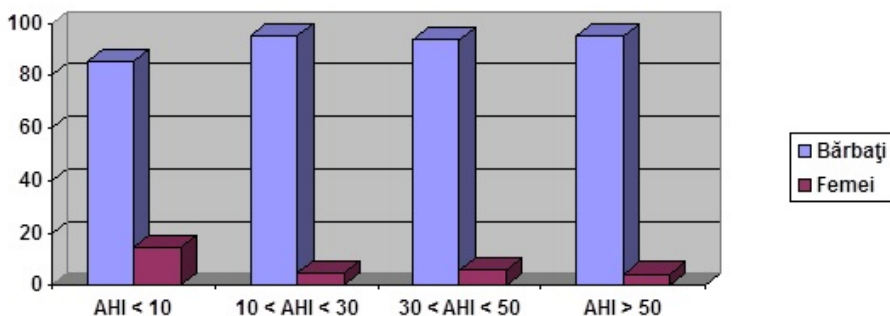
- ~ AHI < 10 (snoring)
- ~ AHI between 10 and 30 - light OSA
- ~ AHI between 30 and 50- medium OSA
- ~ AHI >50 severe OSA

This study searched the correlations between polysomnographic data and ESS values for quality of life ratings.

Results and Discussions

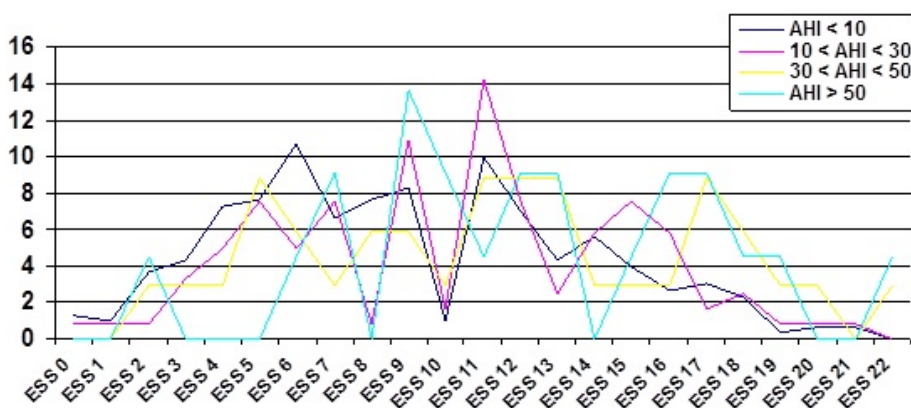
The study group is composed of 65 patients with obstructive sleep apnea syndrome, 85.32% male and 14.68% women, mean age 48 years (Figure no 1).

Figure 1: *Distribution by gender of respiratory sleep pathology (snoring and sleep obstructive apnea)*



For the same group of subjects, the quality of life, evaluated by ESS scale, show wide variations.

Figure 2. *The correlation between quality of life expressed by ESS and the AHI values*



ESS between 0 and 10, within normal limits, is more frequent in the group with mild obstructive sleep apnea syndrome or for snoring patients. ESS between 10 and 18 corresponds with a decrease in the quality of patients' life, is specific for the moderate obstructive sleep apnea syndrome (Figure no 2)

ESS between 18 and 22, which is frequent in the group with apnea-hypopnea index (AHI) over 50, in patients with severe obstructive sleep apnea syndrome, is corresponding to a marked decrease in quality of life. These results correlated with the ESS, that measures the quality of life, prove a marked decrease in quality of life in patients with a high ESS that suffer from severe obstructive sleep apnea syndrome. According to literature data and to our previous studies, the oropharyngeal and hypo pharyngeal pathology (webbing over 10 mm, long and edematous uvula, hypertrophic tonsils) are the cause of the moderate and severe obstructive sleep apnea syndrome and the decrease in quality of life. This is the reason why complete and correct diagnosis of the obstructive sleep apnea syndrome is essential in improving the quality of life.

Conclusions

The quality of sleep, snoring, the awake periods during nighttime, the presence and absence of apnea during sleep and daytime sleepiness are the main questions we address a patient suspected with obstructive sleep apnea syndrome. The awareness degree, the activity during daytime and the quality of life are connected to the quality of sleep. The evaluation of the quality of life by filling in specific questionnaires is extremely useful in evaluating patients suffering from obstructive sleep apnea, because it can't be achieved during an overnight sleep test, a polysomnogram. There are only minor correlation between daytime sleepiness, quality of life, the frequency and the duration of the disease. As a tool for assessing the therapeutic effects, filling in the questionnaires that evaluate the quality of life is preferred because they are very sensitive to the changes appearing after surgical treatment. In case there are no improvements in the quality of life after the treatment with continuous positive airway pressure (CPAP), it will be necessary to introduce new diagnostic tools.

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