Introduction and aim of study: An often reported problem in the history of patients with Sleep-Apnoea-Syndrome (SAS) is an increased frequency of trauma, emphasizing its degree of severity [2]. This is explainable through a tendency to snore during daytime and disturbances of concentration by a fragmentation of the sleep stages. In a former study [1] we have shown, that in a regular group of patients, entering an emergency room directly after an accident the prevalence of significant anamnestic indications for a SAS - there are normal morning, tiredness during the day and imperative impulse to fall asleep and frequently observed apnoes - is significantly higher in those patients with multiple accidents in the past three years compared to those with a single accident in this period. Therefore the abovementioned and cardinal symptoms of SAS should be explored while taking the trauma-specific history. Especially in relation with multiple accidents they require further diagnostics and if necessary therapy.

Methods: Consequently in this study from February 1st, 1995 to January 31st, 1996 we have proved the results of a SAS-monitoring with the APONEOSCREEN II in patients of a trauma-care ward respecting strict excluding criteria, i.e., alcohol, comatose, cerebral, cardiac and circulatory diseases etc. 186 patients between 35 and 65 years of age were interviewed during the first 10 days after a self caused accident, where 122 showed symptoms pointing out a possible SAS (65.6%). Of those, 53 could be recorded and scored with this portable monitoring system.

Results and conclusion: 22 patients could be classified as with an apnoea-index of > 10/h and a desaturation-index of > 10%. Another 22 patients could be classified as limited SAS-positive with an apnoea-index of > 10/h or a desaturation-index of > 10%. 9 patients were scored as SAS-negative with an apnoea-index and a desaturation-index of < 10%. The high percentage of SAS-positive (41.5%) and limited SAS-positive (41.5%) patients in this group of trauma-patients with symptoms pointing out a possible SAS, indicates the need of accurate SAS-related history-taking and also SAS-monitoring also on a trauma-surgical ward. This is important for an adequate therapy, but also for serious accident-prevention.


P0508 Effect of Mandibular Advancement Splint on Psychological Function in Patients with Obstructive Sleep Apnea

V. Nagasaka, Y. Nakajima, M. Ohishi, S. Nakajima, The Fourth Department of Medicine, Kinki University School of Medicine, 377-2, Ohnihoji, Osaka, Japan

Five patients with obstructive sleep apnea (OSA) were treated with mandibular advancement splint (MAS) who held the mandible anteriorly and increased the oropharyngeal and hypopharyngeal dimension. There was a significant decrease of snoring and apneic episodes during sleep after a few weeks of MAS treatment. Apnea hypopnoea index decreased from 24.4 ± 16.2 to 3.0 ± 2.8 (p < 0.01) and the number of apneic episodes decreased from 216.0 ± 140.7 to 24.8 ± 22.8 (p < 0.01). State anxiety score decreased from 47.0 ± 13.1 to 43.5 ± 7.0 (p < 0.01) and trait anxiety score decreased from 47.0 ± 13.1 to 41.8 ± 8.5 (p < 0.01). The SDS (self-rating depression scale score decreased from 38.4 ± 14.7 to 24.8 ± 22.0/night. 2.8 (p < 0.01). The CMI, and Yatabe-Gillford test, the patients became less neurotic and less eccentric after treatment. We conclude that MAS treatment is an effective therapy for OSA patients with the apnea-index and the desaturation-index of > 10%.

P0509 Spirometry in General Practice: The Performance of Practice Assistants

Jaco J, den Ouden E, Heijen T, Pelgering 1, Murij Kneij, Reiler M, Akerboom, Constand P van Schuyck, Chris van Weel, Nijmegen University, Department of General Practice and Social Medicine, P.O. Box 910 6500 HB Nijmegen, The Netherlands, 1 Department of Pulmonology, P.O. Box 910 6500 HB Nijmegen, The Netherlands

Background: Although the use of spirometers in general practice is rising, the quality of spirometry procedures, performed by practice assistants (PA), has never been studied.

Methods: The spirometry performances of 13 PAs were recorded on videocam. A score list was developed adhering to international recommendations. (13 items on instruction and 7 on performance). Qualified lung function technicians (7) assessed the PAs performances from the videocam. If kappa coefficients between the technicians was ≥ 0.6, it was used as "gold standard".

Results: The technicians agreed well on 9 items regarding the instructions. On the items (encouragement, "head extended", demonstration PVC, "do not lean" and "fill air in left") mean percentage adequate was poor (< 30%) on the items ("teeth position", "duration of expiration", "upright position" and "lips around mouth piece") mean percentage adequate was fair (< 55%). Concerning the lung function measurements the quality, expressed as mean percentage of adequate was poor for quality of encouragement and good for "lip positioning" and "air leakage". On seven items no conclusion could be drawn due to lack of agreement.

Conclusions: Sixteen items could be evaluated. The PAs gave adequate instruction in "four out of nine" instruction items. For the lung function measurements themselves PAs did not provide encouragement. The PAs had a "strong urge to do two things at once". Each participant was observed to use a MAS attached to an Aerossal Inhalation Monitor (Vitalograph) that was programmed to determine the triggering of the canister, flow rate and duration of inspiration, and duration of breath-holding (3 times). A score of 1 or 0 was respectively attributed if the participant performed correctly or incorrectly on each of the following: shaking of canister, full expiration, correct triggering of MD1, correct duration and flow rate of inhalation, and breath-holding after inhalation. A "test score" was calculated for each participant and as sum of the above individual scores. Questionnaires were also used to assess the "knowledge score" of participants on the use of MDIs on the same parameters. Most participants thought that they were very or quite confident on their ability to use MDIs before (88.2%) and after (88.2%) the test. Of all the participants only 41.0% knew the number of breaths that the canister could provide completely. 90.4% positioned the mouth piece correctly; 51.9% triggered the MDI correctly; 26.9% inhaled correctly; and 50% held their breath sufficiently after inhalation. The mean test score (± SD) was 9.8 ± 4.8 which correlated with the mean knowledge score of 3.8 ± 1.1 (r = 0.35; p = 0.020). Only 21.2% of the participants were aware that one minute should elapse before the next dose is inhaled. The results of this study suggest that physicians who regularly prescribe MDIs have poor ability to use MDIs themselves and this ability correlates with knowledge. Further studies are indicated to evaluate this further and are of utmost important for planning of medical education.