

European Respiratory Society Annual Congress 2013

Abstract Number: 5011

Publication Number: P2593

Abstract Group: 4.2. Sleep and Control of Breathing

Keyword 1: Apnoea / Hypopnea **Keyword 2:** Children **Keyword 3:** Sleep studies

Title: Usefulness of pulse transit time in diagnostics of paediatric sleep disorders

Dr. Marcin 33376 Kawalski mkawalski@gmail.com MD ¹, Prof. Dr Grzegorz 33377 Namyslowski namys@mp.pl MD ², Prof. Dr Maciej 33378 Misiolek msmisiolek@gmail.com MD ² and Dr. Maciej 33379 Tazbirek tazbirek@gmail.com MD ³. ¹ Sleep-disordered Breathing Laboratory, I. Moscicki ENT Hospital, Chorzow, Silesia, Poland, 41-500 ; ² II Department and Clinic of Otolaryngology Faculty of Medicine, Medical University of Silesia, Zabrze, Silesia, Poland, 41-800 and ³ Department of Pulmonology, Central Clinical Hospital in Katowice, Katowice, Silesia, Poland, 40-752 .

Body: Sleep disordered breathing is common yet relatively rarely diagnosed. If left untreated, it leads to a number of consequences, ranging from primary snoring to complete sleep apnea syndrome with impaired intellectual and physical development. Polysomnography is considered the diagnostic gold standard, however it has limitations, which prevent the widespread use such as limited number of properly staffed and equipped sleep laboratories and financial constraints. A sensitive, specific and economically viable method, which could be used for rapid identification of patients with sleep-disordered breathing is necessary. The aim of the study was to evaluate the usefulness of pulse transit time in the screening diagnostics of sleep-disordered breathing in children. This method was compared with nocturnal oximetry, heart rate variability and evaluation of the cortical arousals. The study included a group of 153 children aged 3-14 years, treated at the I.Moscicki Hospital because of suspected sleep-disordered breathing. All children underwent full polysomnography. Screening methods were assessed in regards of their ability to predict the outcome of the complete polysomnography examination. Pulse transit time (PTT) proved to be significantly correlated with the apnea-hypopnea index in all age groups. Assessment of PTT has proved to be a more effective diagnostic tool than the other analyzed methods Pulse transit time is a sensitive indicator of the presence of sleep-disordered breathing in children and can distinguish among its various types. As a simple and inexpensive method it can be used in screening studies of respiratory sleep disorders in children.