



“Wheeze Rate – A New Paradigm in Asthma Management”

COMPANY ANNOUNCEMENT

KarmelSonix Clinical Study on Pediatric Nocturnal Asthma Accepted for Publication in the Journal of Asthma

18th December 2009: The Directors of KarmelSonix Limited (KSX) are pleased to announce the acceptance for publication of its clinical study **“Children with Nocturnal Asthma Wheeze Intermittently During Sleep.”** The study by Profs. Boner, Piacentini and Peroni from the Paediatric Department, University of Verona, Italy, Drs. Irving, Goldstein and Gavriely from KarmelSonix, Haifa, and Prof. Simon Godfrey from KarmelSonix and Hadassah-Hebrew University, Israel will be published in the Journal of Asthma journalofasthma@bellsouth.net in 6-8 weeks. The Journal of Asthma is the leading journal that focuses primarily on asthma. Appended to this announcement is an abstract from the article highlighting the significance of the findings.

The study monitored nine children with asthma who reside in an Italian boarding school. Their wheezes were quantified overnight using KarmelSonix’ PulmoTrack^(R). Recordings lasted over 8 hours and all but 2 children had wheeze during the night for between 11 to 87 minutes. The extent of wheeze correlated with Diary Daily Symptom Score. The children did not wake up during the wheeze attacks and were not aware of the attacks upon waking up in the morning.

“Nocturnal Asthma is currently a poorly recognized and diagnosed part of asthma management,” commented Prof. Noam Gavriely, KarmelSonix’ CEO and CMO. “In fact, it is the first time that an objective and quantitative measure of night asthma is available, which is particularly important because the distinction between mild asthma and the more severe forms is based, primarily, on the presence or absence of asthma during sleep.” “Prof. Boner and his associates helped very much in the execution of this study under the experienced direction and hands-on leadership of Prof. Simon Godfrey, Chairman of KarmelSonix’ Scientific Advisory Committee.”

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About KarmelSonix : KarmelSonix Ltd focuses on supplying innovative non-invasive acoustic tools for disease management of asthma and related pulmonary disorders. Asthma affects 6-16% of the population in developed countries with a cost exceeding \$US15 billion in the US alone.

Acoustic Asthma Management is a breakthrough in monitoring of the asthmatic patient of all ages, including the very young, very old and others who cannot perform currently available tests. The technology that comes from extensive R&D and clinical validation in the US, Israel and Australia, facilitate continuous monitoring of patients at home, in the ICU and even during sleep. The company is now focussing its efforts on early commercialization of its products particularly in the AsiaPac, European and North American markets.

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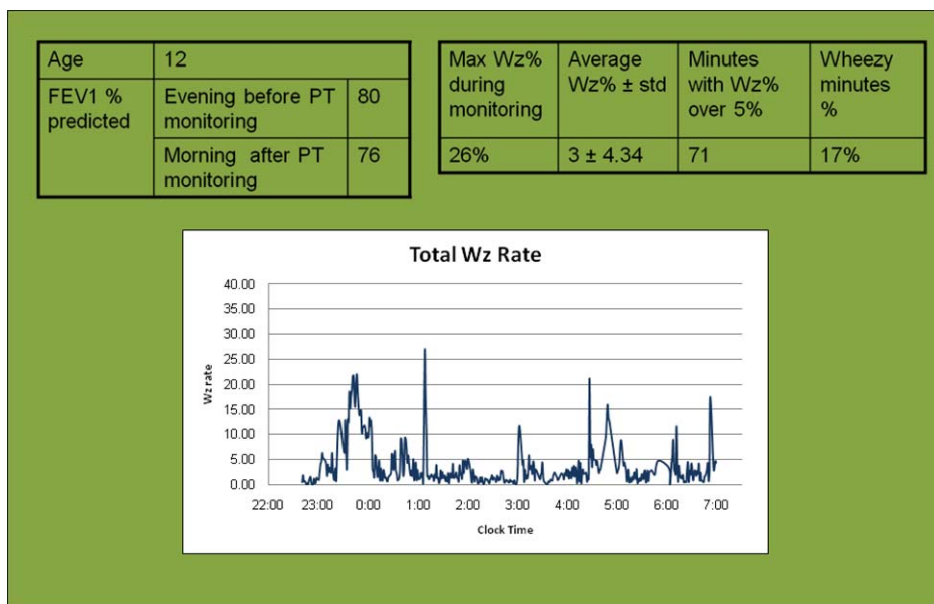
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Appendix

Details from the article’s abstract (as also presented at the European Respiratory Society in October) together with a graph demonstrating the significance of the findings is set out below.

Nocturnal asthma indicates poor overall control of asthma and adversely affects the quality of life of the patient. The purpose of the present study was to compare the objective measurement of nocturnal wheeze with clinical state, recall of symptoms and changes in lung function. Nine asthmatic children aged 9-16 years were followed with an asthma diary and diurnal measurement of peak flow for a week before the nocturnal study and all but two were apparently well controlled. Breath sounds were recorded and analyzed continuously overnight to quantify wheeze using a phonopneumography sensor attached over the trachea. The analytical system (PulmoTrack®) utilized an algorithm to detect wheeze and reject interference. The wheeze rate (T_w/T_{tot} = duration of wheeze / duration of recording) was calculated minute by minute throughout the night. Recordings lasted over 8 hours and all but 2 children had wheeze lasting for a total time of between 11 and 87 minutes. The pattern of wheezing was very variable during sleep with episodes of wheeze separated by periods of quiet breathing. There was no relationship between subjective perception of nocturnal asthma, FEV_1 next morning and the objective measurement of wheeze. Total overnight wheeze was significantly related to the total diary symptom score and to the (small) diurnal variability of PEF. Four of the seven children with asthma which was apparently well controlled had considerable amounts of wheeze during the night which was episodic in nature and unrelated to conventional measures of lung function or nocturnal symptoms.



The graph shows multiple intermittent asthma (wheeze) attacks during the night with values reaching >20% at times. The part of the night of significant (i.e. >5%) wheeze minutes was 17%. Spirometry was mildly reduced to nearly 80 percent of predicted.

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