

PRESS RELEASE

Weinmann Symposium: Effects of Sleep-Related Breathing Disorders on Biomarkers of Systemic Illnesses

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Does snoring lead to diabetes? – Sleep-Related Breathing Disorders, Diabetes and Metabolic Disorders

Lübeck – Current studies are providing the first evidence of connections between sleep-related breathing disorders (SRBD) such as sleep apnea and diabetes and between SRBD and metabolic disorders (dyslipidemia). Further studies are expected to clarify whether and to what extent insulin resistance and dyslipidemia can be improved by treatment of SRBD.

"Does snoring lead to diabetes?" This question was discussed at a symposium held during the 49th annual convention of the German Association for Pneumology and Respiratory Medicine (DGP) in Lübeck. Knowledge has recently been gained of close pathophysiological connections between sleep apnea and metabolic syndrome as cardiovascular risk factors. The prevalence of diabetes in patients with Obstructive Sleep Apnea Syndrome (OSAS) is between 15% and 30%; conversely, 20% of all patients with Type II diabetes suffer from Sleep-Related Breathing Disorders (SRBD). The reasons for that are still unclear, but it is suspected that activation of the sympathetic nervous system, oxidative stress and elevated expression of specific cytokines could be related to the cause. It is also known that disruption to a person's sleep architecture can result in impaired glucose tolerance.

Snorers face an increased risk

"We know today that snoring persons, regardless of other risk factors, have about double the risk of developing Type II diabetes within 10 years," explained Prof. Dr. Joachim H. Ficker (Nuremberg). "On an epidemiological basis, SRBD are associated with the risk of diabetes." New intervention studies have shown that the insulin sensitivity of diabetic and non-diabetic sleep apnea patients can be improved after only two days of nasal CPAP (Continuous Positive Airway Pressure) therapy and that the treatment can have a lasting effect. Further studies have even shown that CPAP therapy can result in improvement to HbA1c values. "However, other studies show that CPAP therapy has no influence on insulin sensitivity," Ficker added. "We anticipate lively discussions in the future and scientific findings that will allow us to improve therapy for our sleep apnea patients and perhaps even prevent diabetes or cardiac disease."

HDL cholesterol is affected

A negative influence of SRBD on lipid metabolism is also the focus of dispute among experts. Studies conducted by Dr. Jan Börgel (Bochum) and his team show that the level of "good" HDL cholesterol is particularly influenced by SRBD. When patients are treated with a CPAP or BiPAP device, the HDL level shows improvement. Opposite trends are observed for the "bad" LDL cholesterol and triglycerides. "Here too the causes are unknown, but it is suspected that the increased activation of the sympathetic nervous system in sleep apnea patients is involved," explained Dr. Börgel. "But there are many open questions regarding the mechanisms between SRBD and changes in lipid metabolism, especially as other studies have delivered controversial findings."

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Press Contact:

Weinmann Geräte für Medizin GmbH+Co.KG ■ Kronsaalsweg 40 ■ 22525 Hamburg ■ Germany

Juliane Papendorf ■ Press Officer

T: +49 (0)40-5 47 02-562 ■ F: +49 (0)40-5 47 02-469

E: j.papendorf@weinmann.de ■ www.weinmann.de