

Sleep-disordered breathing (SDB) and cardiovascular health: preventable complications - Part I

Extensive research around the world has shown that there is a significant relationship between SDB and cardiovascular health. One of the most common sleep breathing disorders is obstructive sleep apnea (OSA)*, a condition where the airway temporarily collapses and prevents breathing. This can occur hundreds of times every night, severely disrupting sleep and putting strain on the cardiovascular system.

OSA AND ASSOCIATED COMORBIDITIES

Severe OSA significantly increases the risk of cardiovascular events, independent of other known risk factors¹. It should be no surprise then that 56% of stable chronic heart failure (CHF) patients have obstructive sleep apnea². OSA is strongly associated with hypertension, independent of all relevant risk factors³ and occurs in 80% of patients with drug resistant hypertension⁴. The condition is also closely linked to obesity and type 2 diabetes.

OSA, CARDIOVASCULAR DISEASE AND MORTALITY

OSA may be an independent predictor of increased mortality in CHF patients⁵. OSA, along with other forms of SDB, is specifically associated with mortality due to coronary artery disease, particularly in adult men (40-70 years) with severe SDB⁶.

DIAGNOSING OSA

OSA can be diagnosed overnight in the comfort of the patient's own home, at a sleep clinic or hospital. A screening questionnaire like the Epworth sleepiness scale or the 'YAWN' test can help determine whether further investigation is required.

TREATMENT – REDUCING CARDIOVASCULAR RISKS

Positive airway pressure therapy is the most widely accepted treatment for sleep apnea patients. It may result in a clinically significant drop in blood pressure, sufficient to reduce risk of a coronary heart disease event by 37% and stroke risk by 56%⁷. Several clinical markers associated with atherosclerosis are improved when sleep apnea is treated⁸. Positive airway pressure therapy treatment can also improve left ventricular function in OSA patients who also have heart failure⁹.

SUMMARY

Compelling evidence points to a strong relationship between SDB and cardiovascular health. Timely and effective treatment can reduce the risks of further cardiovascular complications.

To be continued ...

* Other types of sleep breathing disorders include central sleep apnea (CSA), mixed or complex apneas and Cheyne-Stokes respiration (CSR). This special feature continues in the next edition of this publication.

THE YAWN TEST

Ask your patient the questions listed below. If the answer is 'yes' to three or more of these, the patient is at high risk of having OSA¹⁰.

Y

Your BMI is > 25?

A

Are you aware that you have been snoring or have pauses in your breathing when you sleep?

W

Waking unrefreshed most mornings?

N

Nodding off easily during the day?

For easy tear-off pads with copies of the YAWN test to screen your patients for OSA, please call 1300 305 705 or email info@sleepvantage.com.au

References

- 1 Marin JM, Carrizo SJ, et al. *Lancet* 2005;365(9464):1046-53
- 2 Paulino A, Damy T, et al. *Arch Cardiovasc Dis.* 2009 Mar;102(3):169-75
- 3 Peppard PE, Young T, et al. *NEJM* 2000;342:1378-1384.
- 4 Logan AG, Perlikowski SM, et al. *J Hypertens* 2001;19:2271-7.
- 5 Wang H, Parker JD, et al. *J Am Coll. Cardiol.* 2007; 49: 1625 - 31.
- 6 Punjabi N, Caffo B, et al. *PLoS Med* 6(8): 2009, 6(8) e1000132
- 7 Becker HF, Jerrentrup A, et al. *Circulation* 2003;107:68-73.
- 8 Ip MS, Tse HF, et al. *Am J Respir Crit Care Med* 2004;169:348-53.
- 9 Kaneko Y, Floras JS, et al. *NEJM* 2003;348:1233-1241.
- 10 Adapted from P.F. Grunstein et al. The Norwich Questionnaire. Presented at the American Thoracic Society Meeting 2008

ResMed is the global leader in the development, manufacturing and marketing of innovative medical products for the treatment and management of respiratory disorders, with a focus on sleep-disordered breathing.

For more information on sleep-disordered breathing and other respiratory disorders, please visit www.resmed.com

RESMED

