LIKE The Homecare Medical Ltd.

NOVEMBER 2013

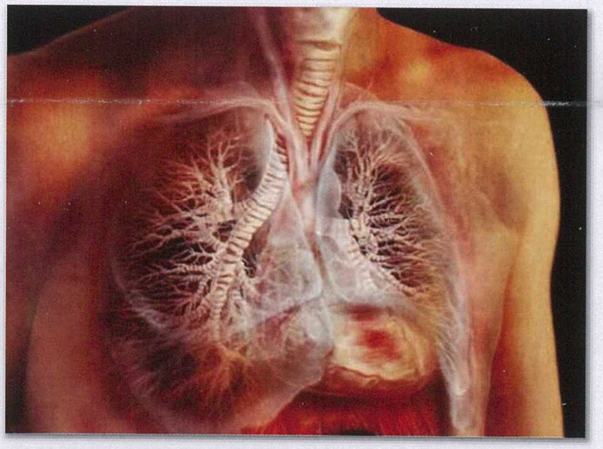
Homecare Classroom on Sleep Apnea

ISSUE 22

COPD and Obstructive Sleep Apnea (OSA): The Overlap Syndrome

Chronic obstructive pulmonary disease (COPD) and obstructive sleep apnea (OSA) represent two of the most prevalent chronic respiratory disorders in clinical practice. The coexistence of OSA and COPD is also common, and is was described by Flenley in 1985 as the overlap syndrome.[#1] Recent epidemiological data suggest that the two disorders coexist in approximately 1% of adults[#2], while the overlap syndrome occurs in 10–20% of patients with OSA.[#3] Subclinical form of overlap syndrome could be estimated as 4% in men based on a reported prevalence of 16.8% for GOLD 1(Global Obstructive Lung Disease stages) and 24% among men for an apnea/hypopnea index (AHI) of at least 5/h.[#2]

Patients with overlap syndrome develop more pronounced nocturnal oxygen desaturation and hypercapnia than COPD or OSA alone, which predisposes to pulmonary hypertension and right heart failure.[#4] Bradley et al. studied 50 patients with OSA and found that about 10% had evidence of right-heart failure.[#5] The risk factors for development of right-heart failure were daytime hypoxemia - hypercapnia and a reduced FEV1.[#5#6] Clinical trials, have also demonstrated that even those with severe OSA alone, tend not to develop marked pulmonary hypertension if they are free from other cardiopulmonary disease.[#7] However, they have confirmed the presence of pulmonary hypertension in those with the coexistence of obstructive lung disease and daytime hypoxemia and hypercapnia.[#8]Additionally, Hawrylkiewicz et al. observed that 86% of those with overlap syndrome had pulmonary hypertension, compared with 16% of those with OSA.[#9]



Mortality data for patients with the overlap syndrome have not been well studied until recently. OSA has been reported to increase mortality in patients with COPD. Marin et al. studied patients with COPD and patients with the overlap syn-

* The above information is for reference only.
Should you have any enquiries, please consult your own doctor.

The above information is provided by

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drome and after a median follow-up of over 9 years, proved that the all-cause mortality was higher in the overlap group (42.2%) than in the COPD-only group (24.2%).#10 Even when adjusted for COPD severity, comorbid OSA remained a risk factor for death. Similarly, both the diagnosis of concomitant COPD and markers of COPD, such as a reduced FEV1 or smoking history, increase mortality in OSA patients#11 and Lavie et al. showed that COPD conferred a 7-fold risk of death in OSA patients.#12

#1 Reference: Flenley DC. Sleep in chronic obstructive lung disease. Clin Chest Med. 1985; 6(4):651–661.

#2 Reference: McNicholas WT. Chronic obstructive pulmonary disease and obstructive sleep apnea: overlaps in pathophysiology, systemic inflammation, and cardiovascular disease. Am J Respir Crit Care Med 2009; 180:692–700.

#3 Reference: Lopez-Acevedo M, Torres-Palacios A, Elena Ocasio-Tascon M, et al. Overlap syndrome: an indication for sleep studies? Sleep Breath 2009; 13:409–413.

#4 Reference: Shteinberg M, Weiler-Ravel D, Adir Y. The overlap syndrome: obstructive sleep apnea and chronic obstructive pulmonary disease. Harefuah 2009; 148:333–336.

#5 Reference: Bradley TD, Rutherford R, Grossman RF, Lue F, Zamel N, Moldofsky H, Phillipson EA. Role of daytime hypoxemia in the pathogenesis of right heart failure in the obstructive sleep apnea syndrome. Am Rev Respir Dis. 1985; 131(6):835–839.

#6 Reference: Bradley TD, Rutherford R, Lue F, Moldofsky H, Grossman RF, Zamel N, Phillipson EA. Role of diffuse airway obstruction in the hypercapnia of obstructive sleep apnea. Am Rev Respir Dis. 1986; 134(5):920–924.

#7 Reference: Arias MA, Garcia-Rio F, Alonso-Fernandez A, Martinez I, Villamor J. Pulmonary hypertension in obstructive sleep apnoea: effects of continuous positive airway pressure: a randomized, controlled cross-over study. Eur Heart J. 2006; 27(9):1106–1113.

#8 Reference: Chaouat A, Weitzenblum E, Krieger J, Oswald M, Kessler R. Pulmonary hemodynamics in the obstructive sleep apnea syndrome. Results in 220 consecutive patients. Chest. 1996; 109(2):380–386.

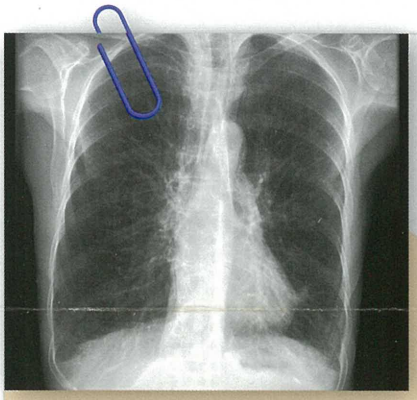
#9 Reference: Hawrylkiewicz I, Sliwinski P, Gorecka D, Plywaczewski R, Zielinski J. Pulmonary haemodynamics in patients with OSAS or an overlap syndrome. Monaldi Arch Chest Dis. 2004;61(3):148–152.

#10 Reference: Marin JM, Soriano JB, Carrizo SJ, Boldova A, Celli BR. Outcomes in patients with chronic obstructive pulmonary disease and obstructive sleep apnea: the overlap syndrome. Am J Respir Crit Care Med. 2010; 182(3):325–331.

#11 Reference: Chaouat A, Weitzenblum E, Krieger J, Krieger J, Sforza E, Hammad H, Oswald M, Kessler R. Prognostic value of lung function and pulmonary haemodynamics in OSA patients treated with CPAP. Eur Respir J. 1999; 13(5):1091–1096.

#12 Reference: Lavie P, Herer P, Lavie L. Mortality risk factors in sleep apnoea: a matched case-control study. J Sleep Res. 2007; 16(1):128–134.

#13 Reference: "COPD and Obstructive Sleep Apnea (OSA): The overlap syndrome"by Aggelos S. Aggelakas MD, PhD (cand.), 20th November 2012



Seminar of December

Guest Speaker :

Dr Law Tse Sam, Grace

(Registered Specialist in Respiratory Medicine)

Content : Information about the pathology and treatment of chronic obstructive pulmonary disease

Date : 01 December 2013 (Sunday)

Time : 14:30 - 16:30

Venue : The HomeCare Medical Ltd.
1/F., International Industrial Building,
501-503 Castle Peak Road, Lai Chi Kok, Kowloon
(Lai Chi Kok MTR Station Exit C)

Please call Ms Tsang at 2402-2188 for registration (Before 27 Nov 2013)

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