

European Respiratory Society Annual Congress 2012

Abstract Number: 3726
Publication Number: P2910

Abstract Group: 1.12. Clinical Problems - COPD

Keyword 1: COPD - management **Keyword 2:** Hypoxia **Keyword 3:** No keyword

Title: Daytime risk factors of nocturnal hyoxemia in COPD patients unqualified for long-term oxygen therapy

Ms. Yijia 21790 Wang wyjssmile@yahoo.com.cn¹, Ms. Lianqin 21791 Tao tlq.1988@163.com¹, Prof. Dr Guochao 21792 Shi shiguochao@hotmail.com¹, Prof. Dr Huanying 21793 Wan hy_wan2006@yahoo.com.cn¹, Ms. Xiaoting 21794 Cai xiaotingc@yahoo.cn¹ and Mr. Haixing 21796 Zhu starfishz@hotmail.com¹. ¹ Pulmonary Medicine, Ruijin Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai, China .

Body: Objective To identity daytime variables that are predicative to nocturnal hyoxemia among COPD patients unqualified for long-term oxygen therapy (LTOT). Methods Forty-eight stable COPD patients with daytime SaO₂≥90% were enrolled to this study and regarded as patients unqualified for LTOT. Patients were divided into 4 groups depending on daytime SaO₂ (SaO₂≥98%, group 1; SaO₂=97%, group 2; SaO₂=96%, group 3; 90%≤SaO₂≤95%, group 4). All patients underwent lung function examination during daytime. Their nocturnal oxygen saturations were monitored with overnight pulse oximetry (OPO). Results Daytime oxygen saturation was positively correlated with nocturnal mean SaO₂ (r=0.79, P<0.0001), while negatively correlated with time spend with saturation below 90% (TB90) (r= -0.75, P<0.0001). No significant relationship was found between lung function parameters and nocturnal SaO₂. Patients with daytime oxygen saturation between 90% and 95% were more likely to have lower nocturnal oxygen saturation and longer TB90 (P<0.05). Conclusions Daytime oxygen saturation may effectively predict the occurrence of nocturnal hyoxemia in stable COPD patients unqualified for LTOT. To reduce COPD complications and improve prognosis, we suggest a relative indication of LTOT for patients with daytime oxygen saturation between 90% and 95% and diagnosed with nocturnal hyoxemia.

Spearman rank correlation coefficient between daytime SaO₂

Variables	r	P value
Nocturnal MSaO ₂	0.79	<.0001
TB90	-0.75	<.0001
ODI	0.28	0.0552

K-W test and SNK test among different SaO₂ levels of COPD patients

Variables	χ^2	P value	multiple comparison
Nocturnal L _{SaO₂}	7.5685	0.0059	group1: group4
TB90	9.8115	0.0202	group1: group4
ODI	3.6406	0.3030	none