Title	Sub-maximal exercise testing in silicosis and correlation with lung function
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Citation	The 4th Medical Research Conference, Hong Kong, China, 30-31 January 1999, v. 21 n. Supp, p. 37
Issued Date	1999
URL	http://hdl.handle.net/10722/45735
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SILICOSIS: EFFECTS OF SMOKING ON SYMPTOMS AND LUNG FUNCTION

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Silicosis is relatively common occupational interstitial lung diseases in Hong Kong and affects approximately 5,000 patients. These patients suffer from fibrosis of the lung which could be progressive. The symptoms of silicosis, however, have not been assessed systematically in the Chinese population. The majority of patient are either current or ex- smokers which further complicates the assessment of the contribution of the silicotic process. We have therefore systematically studied the respiratory symptoms in a cohort of 100 (100M; mean age±SD were 63.9±8.9 years. 30 were current smokers, 81 ex-smokers, and 14 never smokers) consecutive silicosis patients. The mean (±SD) FEV_1 (l), FVC (l), and KCO (l) were 68.8±24.7, 81.4±16.5 and 80.4±21.9% predicted respectively. Enquiry of respiratory symptoms revealed that 79.2, 87.2, 35.2, 83.2, 8.8, and 43.2% of all patients had cough, dyspnoea, chest pain, paroxysmal nocturnal dyspnoea, chest pain, haemoptysis, and wheezing as symptoms respectively. There was no significant difference between the percent of patients with cough (ever smoker 85.6%, never smoker 28.5%), dyspnoea (87.4, 85.7; p=0.84), chest pain (36, 28.5; p=0.60), paroxysmal nocturnal dyspnoea (91.9, 14.3; p=0.000), haemoptysis (9.9, 0; p=0.22), and wheezing (43.2, 42.8; p=0.98) between the ever and never smokers. In addition, there was no significant difference between FEV_1, FVC, and KCO between the ever and never smokers (p>0.05). The results of our study suggest that previous smoking might play a little role to respiratory symptoms and lung function indices in silicosis.

This abstract is funded by: Hong Kong Pneumoconiosis Compensation Fund Board

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SUB-MAXIMAL EXERCISE TESTING IN SILICOSIS AND CORRELATION WITH LUNG FUNCTION

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Silicosis is the commonest occupational lung disease amongst the Hong Kong construction workers. Although patients with silicosis receive a statutory compensation in most parts of the world, the compensation process is hampered by a lack of gold standard for assessment of disability. We report our results on assessment of steady state silicosis from a consecutive cohort of out-patients. Altogether 137 (137M; mean age±SD 64.2±8.9; 31 were current smokers, 83 ex-smokers, and 23 never smokers) randomly recruited and consecutive cases were studied with standard lung function assessment and exercise testing using the MedGraphics Cardio2 package. The mean (±SD) FEV_1 (l), FVC (l), RV (l), TLC (l), KCO (l), and 6 minute walking distance (m) were 68.4±24.3, 81.1±16.3, 155.1±51.1, 89.9±15.9, 80.1±21.8, and 416.7±70.6 respectively. A total of 108 patients had undergone submaximal exercise ramp testing. The mean (±SD) exercise time, limited by dyspnoea (n=46), significant ST depression on the ECG (n=8), and generalised fatigue (n=51), was 7.0±2.9 minutes. The maximal oxygen uptake (VO_{2max}) and the 6 min walking distance correlated with each other (r^2=0.62, p<0.05) but do not correlate with the lung function indices (p>0.05). Our results, previously unreported, show a correlation amongst the exercise parameters which bore no correlation with traditional lung function indices. Our results therefore suggest that conventional lung function testing in the assessment of compensation should be re-evaluated.

This abstract is funded by: Hong Kong Pneumoconiosis Compensation Fund Board