

risk factor for the development of asbestos-related neoplastic diseases (1). However, the association between PPs and pleural mesothelioma (PM) remains controversial, as some studies on cohorts of asbestos exposed workers have shown correlation between PPs and PM. Despite this, scientific literature is poor. Research has been focused on the relationship between PPs and lung cancer, while there is a lack of studies on the possible relationship between PPs and the development of PM.

**Case presentation** A clinical case of a patient affected by asbestosis and PPs with a history of occupational asbestos exposure is presented. During the follow up a PM was diagnosed at a PP.

**Conclusions** The widespread belief that there is no relationship between PPs and PM is not supported by a vast literature as it happens for the absence of association between PPs and lung cancer. In the patient described it is not possible to determine whether the localization of the PM at a PP is incidental or not and whether the PM can be attributed only to intense exposure or even to the presence of PPs. Similar cases may not be uncommon even if not reported in the literature.

## REFERENCES

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## CHANGE THE PROFILE OF SILICOSIS IN UNDERGROUND GOLD MINING IN MINAS GERAIS, BRAZIL

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**Introduction** Minas Gerais is the Brazilian state with the highest reported number of silicosis, much of which originated from gold mining industry. The objective was to analyse the temporal occurrence of silicosis in gold mining identifying occupational factors related it.

**Methods** Cross-sectional study with 1022 former gold miners workers of Nova Lima (MG), conducted between 1995 and 2011.

**Results** Silicosis was diagnosed in 20.1% of the workers none of whom worked on the surface. Those who have worked in underground for up to 5 years had 4.4% prevalence in contrast to those with more than 20 years, whose prevalence was 35.8%. Among those who started work in underground until the 1950 the disease had a prevalence of 73.3% while among those that started after 1990 no cases were identified.

**Discussion** It have occurred a significant drop in the incidence of silicosis in gold mining. The disease is known to be dose-dependent so is expected the decrease in the number of cases by improvements in work environments. It is essential that measures continue to be implemented in all fields of activity with exposure to silica to decrease the number of cases.

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## ASSESSMENT OF SERUM AND URINARY BIOMARKERS FOR PNEUMOCONIOSIS IN A COHORT OF STONE WORKERS EXPOSED TO ASBESTOS CONTAMINATED MINERALS

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**Introduction** Pneumoconiosis resurged in recent years but current medical surveillance programs have flaws that result in low detection rate. Development of new screening tools is warranted. The objective of the study was to develop serum and urinary screening tests for pneumoconiosis.

**Methods** We conducted a cross-sectional study in 140 stone workers between March 2013 and July 2014. We compared serum soluble mesothelin-related peptide (SMRP), fibulin-3, and urinary 8-Oxo-2'-deoxyguanosine (8-OHdG)/Creatinine between cases of pneumoconiosis and control. Using the ILO international classification of radiographs of pneumoconiosis profusion subcategory  $\geq 1/0$  combined with restrictive type ventilatory impairment in standard pulmonary function test (FVC <80% of predicted and/or FEV1/FVC >70% of predicted) as the reference standard, we calculated sensitivity, specificity, false positive, false negative, and the likelihood ratio of the biomarkers. We created the receiver operating characteristic (ROC), calculated the area under the curve (AUC) and decided the cut-off values using the Youden index.

**Results** After excluding one subject with uremia and one subject with COPD, a total of 138 subjects were enrolled that included 20 cases and 118 controls. The ROC-AUC was 0.7 for SMRP (95% CI: 0.5 to 0.8), 0.5 for Fibulin-3 (95% CI: 0.4 to 0.7), and 0.5 for 8-OHdG/Creatinine (95% CI: 0.4 to 0.6). There was a dose-response relationship between SMRP and the severity of pneumoconiosis. Using SMRP larger than 0.62 nM as the cutoff value, the diagnostic test had the highest positive likelihood ratio followed by using fibulin-3 larger than 43.9 ng/mL as cutoff value, and then 101.65 ng/mg for 8-OHdG/Creatinine. In the case group, 65% of subjects processed asbestos-contaminated ores including nephrite, antigorite, or talc. Subjects exposed to nephrite had significantly higher level of SMRP than exposed to other types of stones.

**Conclusion** SMRP might be used in the screening for workers exposed to asbestos contaminated minerals.

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## OCCUPATIONAL LUNG DISEASE

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