Acute silicosis

Buroviene V., Jurevicius T., Zaveckiene J.
The Hospital of Lithuanian University of Health Sciences (LSMU) Kauno klinikos, Kaunas, Lithuania

Background. Although the incidence of silicosis has fallen since its peak during World War II, it is still a major cause of pulmonary impairment in at-risk workers. On daily basis, silicosis is thought of as a chronic, long-standing illness. Accelerated and acute silicosis are two distinct forms, that develop after short period of exposure to high concentrations of respirable crystalline silica, especially in closed spaces.

Aim. To present a case of acute silicosis. To overview clinical and radiological features of acute silicosis.

Materials and Methods. Case report and overview of literature.

Results. A 29-year-old male presented to the emergency room with shortness of breath. After a chest x-ray a right-sided pneumothorax was diagnosed. Patient was admitted to thoracic surgery department, where surgeons perform pleural drainage. Despite already visible parenchymal changes in the x-ray, no additional diagnosis is made and patient is discharged home. A month later he presents to pulmonologist with increasing shortness of breath. Again a chest x-ray is done – a suspicion of interstitial disease, which is confirmed after chest CT. Patient is treated with corticosteroids with no positive results. Because of increasingly worsening respiratory symptoms, it is decided to perform an open lung biopsy. Histopathologically cholesterol crystals filling the alveoli are seen. Detailed occupational history is gathered – patient works in an environment with high concentrations of stone dust and does not use personal protection devices – diagnosis of acute silicosis is made. Despite of cessation of exposure, treatment and lung transplantation, patient dies in 6 months after the initial visit to the emergency department.

Conclusions. Silicosis is not only a chronic disease. Acute silicosis is a life threatening disease associated with high concentration silica dust inhalation. Because of rapidly changing industry it can also occur in young people working in non-typical occupations. Early diagnosis and cessation of exposure is essential, although despite of treatment a typical case of acute silicosis usually results in patient’s death within few months.