Clinical and biological silhouettes of pneumoconiosis in conceptual, pathogenetic and radiation aspects

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ABSTRACT. Clinical and pathogenetic key of pneumoconiosis is inhalation and accumulation of fine industrial dust that causes an inflammatory reaction in the pulmonary interstitium. Pneumoconiosis is a general term that includes all pathologies characterized by chronic fibrotic pulmonary reactions after prolonged inhalation of excessive amounts of harmful dust. The disease takes different names depending on the inhaled dust: anthracosis (coal), siderosis (iron dust), asbestosis (asbestos), etc. The anatomopathological data vary depending on the inhaled dust, but are identified with a fibrosclerotic reaction that can take a nodular appearance or diffuse interstitial fibrosis with compaction of the lungs. Clinically, they are manifested by cough with sputum of different colors, dyspnea, hemoptysis, weight loss, etc. Depending on the effect on the lungs, dusts are differentiated into three categories: dusts that cause pulmonary fibrosis, such as silica or asbestos; inert powders that are visible on radiological examinations but cause a minimal fibrotic reaction, such as welding fumes; and dusts that cause granuloma formation, such as beryllium. Fibrous pneumoconiosis is usually predominant and is caused by the inhalation of silica, asbestos fibers, beryllium, talc, and coal dust. The patient's medical history usually reflects long-term exposure to pollutants, since industrial dust-induced interstitial lung disease is latent. Exposure to these pollutants occurs systemically in the workplace. Duration of work often correlates with the risk of developing pneumoconiosis. The diagnosis is made on the basis of anamnestic data, characteristic clinical data, X-ray examinations, etc. Prevention is of great importance, consisting of limiting the formation and spread of dust, in order to avoid the impact of specific risk on susceptible individuals, in removing victims from work at the first symptoms.

KEY WORDS: fibrosis, pollutants, silica, beryllium, talc, coal dust.

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