

Technegas ventilation SPECT for evaluating silicosis in comparison with computed tomography

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To compare the subtle pulmonary parenchymal morphologic changes with ventilation function in patients with silicosis, the conventional CT, high resolution CT and technegas ventilation SPECT were performed. In 25 silicotic patients and six controls, the pulmonary ventilation state was evaluated by an index called the coefficient of variation (CV), which expresses the subliminal heterogeneous distribution of technegas in the lungs. The results showed that with silicosis the CV value is significantly higher than that without silicosis. The CV value was proved by multifactorial analysis to independently reflect the extent of the appearance of small scattered interstitial findings such as nodules, septal thickening and bulla, which were typical findings for silicosis. The CV value calculated from the technegas SPECT correlated well with the severity of silicosis. It is considered that the CV value can also express the functional state of the silicotic lung.

Key words: technegas, SPECT, computed tomography, silicosis