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Title: Spirometric findings in asbestos-exposed subjects with pleural plaques missed by chest radiography but detected by HRCT

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Body: Introduction: High-resolution computed tomography (HRCT) is recognizably more sensitive than chest X-ray (CXR) in detecting small-to-moderately large pleural plaques (PP) in asbestos-exposed subjects. Objectives: We reasoned that if the PP missed on CXR are associated with decreased lung function, this would lend support to a wider use of HRCT in these subjects. Methods: HRCT and spirometry were obtained in 1075 miners and millers who have been exposed to progressively lower airborne concentrations of asbestos over time (Groups I to III) and were free of PP or asbestosis on CXR. Results: We found that 100/1075 (9.3%) of the subjects had PP only on HRCT 44/90 (48.8%) in Group I, 44/537 (8.2%) in Group II and 12/448 (2.7%) in Group III. As shown in the Table, subjects with PP on HRCT but not CXR had consistently lower spirometric values than those deemed as normal by both methods (p<0.05). Similar results were obtained after adjusting for smoking status.

	Group I	Group I	Group II	Group II	Group III	Group III
	CXR(-)/HRCT(-)	CXR(-)/HRCT(+)	CXR(-)/HRCT(-)	CXR(-)/HRCT(+)	CXR(-)/HRCT(-)	CXR(-)/HRCT(+)
FVC, %	97.7 ± 18.5	92.3 ± 16.5	102.7 ± 16.9	96.4 ± 18.1*	103.2 ± 20.8	90.9 ± 17.7*
FEV1, %	98.6 ± 22.8	90.3 ± 19.2	100.1 ± 18.9	90.9 ± 23.0*	99.3 ± 21.7	83.7 ± 18.5*
FEV1/FVC	76.2 ± 7.1	73.3 ± 8.6	76.4 ± 7.4	72.8 ± 10.9*	76.1 ± 8.2	71.7 ± 10.4

*p<0.05 when comparing CXR(-)/HRCT(-) to those CXR(-)/HRTC(+)

Conclusions: We conclude that the lack of sensitivity of CXR in detecting PP in asbestos-exposed subjects is a matter of concern, as subjects with these abnormalities only on HRCT had decreased lung function

values. This seems of special relevance among more exposed subjects.