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LUNG ALERT

Using serum osteopontin to help identify pleural mesothelioma

▲ Pass HI, Lott D, Lonardo F *et al*. Asbestos exposure, pleural mesothelioma, and serum osteopontin levels. *N Engl J Med* 2005;**353**:1564–73

Serum osteopontin levels were compared in 76 patients with surgically staged pleural mesothelioma, 69 with non-malignant asbestos disease, and 45 non-exposed controls. Tumour osteopontin was also assessed in the patients with mesothelioma.

Comparing age matched subjects with and without exposure to asbestos (in the absence of malignant disease), the authors concluded that there were no significant differences in mean (SE) serum levels of osteopontin between the groups (30 (3) ng/ml and 20 (4) ng/ml, respectively; $p = 0.06$). However, serum osteopontin levels were significantly higher in the group with pleural mesothelioma than in the asbestos exposed controls (133 (10) ng/ml *v* 30 (3) ng/ml, $p<0.001$). Thirty six of the 38 available samples of tumour tissue (94.7%) stained positive for osteopontin on immunohistochemistry.

In the groups exposed to asbestos, Receiver-Operating-Characteristic (ROC) analysis of serum osteopontin levels noted a sensitivity of 77.6% and specificity of 85.5% (at a cut off of 48.3 ng/ml) for the diagnosis of mesothelioma; this improved to 84.6% and 88.4%, respectively, with a cut off value of 62.4 ng/ml for patients with confirmed stage I mesothelioma.

This study shows that tissue immunohistochemistry and serum ELISA assay for osteopontin can be used to help distinguish individuals with pleural mesothelioma from those with non-malignant pulmonary disease who have been exposed to asbestos.

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