

LEVELS OF TRACE ELEMENTS AND MINERALS IN BLOOD SERUM AND PLEURAL EFFUSION IN DIFFERENTIAL DIAGNOSIS OF OCCUPATIONAL MESOTHELIOMA

*A.V. Basanets, N.S. Opanasenko,
I.N. Andrusichina*

Summary

The aim of this work was to study the role of trace elements and electrolytes in pleural effusion and blood serum concerning the differential diagnosis of malignant pleural diseases. The concentrations of Pb, Cd, Cu, Zn, Fe, Ca, Mg, K, Na in effusion and serum of 16 patients suffering from asbestos malignant mesothelioma were analyzed. The malignancy was confirmed by cytology after thoracoscopy. The results were compared with those obtained from 8 patients with tuberculosis pleurisy. Trace elements were determined by atomic absorption spectrometry method. Concentrations of K and Na were determined by emission atomic absorption method.

Several trace elements and electrolytes contents in effusion and blood serum significantly differed from the control group. E.g. concentrations of Pb, Cd, K, N appeared to be reduced in effusion; concentrations of Cd, K, Na were increased in the blood serum.

These data indicate that there may be a correlation between the trace elements and electrolytes levels and the malignancy of the disease.