

Trace elements levels in serum of skin cancer patient

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Melanoma is a serious skin cancer that, if found and treated in its early stages increases the chance of recovery. In recent years its worldwide incidence is growing steadily by reasons partially unknown. Nowadays, some studies have correlated some trace elements in blood and tissue with the disease [1,2]. In this ongoing work, trace element concentrations in blood serum of patients with melanoma were measured by PIXE aiming to correlate them with the presence of melanoma, as a possible aid for the prognosis of melanoma. The blood samples were collected in the São Paulo Hospital and the blood serum was obtained by centrifugation at 4500 rpm during 15 minutes. The samples were analyzed by PIXE (Proton Induced X-ray Emission) after acid digestion. The concentration of P, S, K, Ca, Fe, Cu and Zn were studied in serum of 10 patients with melanoma and 15 controls. The elemental concentrations were calculated relative to an internal Gallium standard. The accuracy of the method was verified analysing a NIST bovine liver reference material (number 1577b). The results of this work showed a small increase of P, S and K levels in comparison with the control group. However these are the first results of a work still in progress and more data will be incorporated.

[1] M. Bergomi, G. Pellacani, M. Vinceti, S. Bassissi, C. Malagoli, D. Alber, S. Sieri, L. Vescovi, S. Seidenari and R. Vivoli, *Journal of Trace Elements in Medicine and Biology*, 19 (2005) 69-73.

[2] R.A. Desmond and S.J. Soong, *Surg. Clin. North Am.*, 83(1) (2003) 1-29.