

CA-125 IN THE DIAGNOSIS AND THERAPEUTIC MONITORING OF TUBERCULOSIS IN HIV POSITIVE PATIENTS

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ABSTRACT

The diagnosis of active tuberculosis (TB) in patients with human immunodeficiency virus (HIV) is difficult, and there are few biomarkers of disease for the diagnosis of TB in HIV-infected patients. Serum CA-125 is a host biomarker that is elevated in pulmonary and extra-pulmonary TB. We investigated the use of serum CA-125 in the diagnosis of active TB in HIV-infected patients. CA-125 concentrations were measured in 109 stored serum samples, using the Roche Cobas 6000 autoanalyzer. Samples were from patients with or without active TB and HIV. Samples collected from individuals with active TB were also analysed at two-months post-treatment. In HIV-uninfected individuals, pre-treatment serum CA-125 concentration was significantly higher in those with TB compared to healthy controls. We calculated the diagnostic potential of CA-125 for active TB in HIV negative patients using a receiver operating characteristic (ROC) curve; CA-125 had a sensitivity, specificity, positive and negative predictive values of 82.4%, 94.7%, 93.3% and 85.7%, respectively at a threshold value of 27 U/mL. After two months of treatment, serum CA-125 concentration reduced significantly ($P < 0.0001$). However, in HIV-infected individuals, there was no significant difference in CA-125 concentration between patients with and without active TB; moreover, following two months of TB treatment, serum CA-125 concentration was not statistically different from pre-treatment concentrations. Serum CA-125 concentration has potential for the diagnosis and therapeutic monitoring of TB in HIV negative patients but less so in HIV positive patients. These findings should be confirmed in future prospective studies.