SUMMARY AND RECOMMENDATION

Tuberculosis is an infectious disease affecting primarily the lungs, but any organ may be affected.

It is primarily a disease of humans, but may occur in lower animals, particulary in cattle. In the latter case, the etiologic agent is usually transmitted to humans through the consumption of raw milk. However, airborne spread from cattle which may occur is estimated. As we approach the year of 2000, tuberculosis will produce the highest mortaility of any bacterial disease. Definitive diagnosis of disease is dependent on the isolation and identification of the tubercle bacillus. Presumptive diagnosis is based on detection of acid-fast bacili in tissue sections or sputum smears, in certain cases, the demonstration of the tubercle bacilli may not be a practical way of diagnosis owing to the difficulties in obtaining the pathological specimens for examination, or may be due to the scarcity of the organisms which makes their detection difficult, or due to other technical difficulties. Indirect methods of diagnosis may impart them seleves

The basic reaction on which all immunoassays depend is the band that forms between an antigen and antibody.

ELISA technique depends on the assumption that an antigen or antibody can be linked to an enzyme and the resulting conjugate is both immunologically and enzymatically active.

Degradation of chromogenic or florogenic substrate by the enzymes yields a product which enables accurate detection of the presence of the enzyme.

This research was carried out on 90 patients divided in to three groups.

Group I: Included 50 cases of active pulmonary tuberculosis proved by clinical radiological and laboratory evidence of pulmonary tuberculosis.

Group II: Included 20 cases of suspected pulmonary tuberculosis diagnosed on the previous criteria but with repeatedly negative sputum for acid fast bacilli by direct microscopy and culture techniques.

Group III: Included 20 patients of normal controls who were semilarly investigated but had no evidence of Pulmonary tuberculosis. All groups were selected from Tanta Hospital T.B centre patients during the period from July 1991 to Augast 1992.

The sera of all groups were examined for detection of IgG specific antibody to PPD at a concentration of 40 ug/ml by Enzyme-linked Immunosrbent Assay technique at a serum dilution 1:1000.

The serum sample was considered positive if the mean optical density of 2 test wells was equal or more than 0.209. The

results of this study showed that the ELISA technique was positive in 90% of active pulmonary tuberculosis 55% of suspected pulmonary tuber culosis and 5% of the control group.

The results of ELISA test showed a sharp delineation between patients of active pulmonary, suspected pulmonary tuberculosis and control subjects. 5% positivity of ELISA in control subjects indicates the specifity of the described ELISA test method and the exclusion of false positive results. Also this research has shown that the optical density of the level of IgG antibody has no relation to the extent of the lesion. This technique has the potential use as a rapid practical test in evaluating patients with suspected pulmonary and exrtra pulmonary tuberculosis.

The ELISA test is a serological test for detection of Immunoglobulin G specific antibody against P.P.D of Mycobacterium tuberculosis, The ELISA test is a serodiagnosis of pulmonary tuberculosis to find pure antigenic components derived from mycobacterium tuberculosis.

RECOMMENDATION

It may be suggested that ELISA technique for the detection of specific antibodies could be used for diagnosis of tuberculosis and follow up of the patients, as it seemed to be sensitive, specific and reliable method. Also, it can differentiate between patients and controls with the use of non-specific antigens (PPD

and BCG). It will be useful, if more specific antigens can be used, as for example antigen 5. Such specific antigen was able to discriminate between active tuberculosis and PPD skin test-positive control. Although doubts have accordingly been expressed concerning the possibility of preparing pure specific antigens, the availability of modern techniques such as affinity chromatography, monoclonal antibodies and the ability to synthesize antigens, makes this possibility much more likely.