

ABSTRACT

This study was aimed at determining the common fungal agents responsible for chronic lung disease in Sri Lanka. In addition an attempt was made to establish and improve available diagnostic criteria for these diseases. This was felt very necessary because mycotic disease is not given serious consideration in the differential diagnosis of chronic lung disease in Sri Lanka.

A preliminary analysis of data obtained from the investigation into lung diseases in the past 3 years, highlighted the presence of potentially pathogenic fungi from the sputum of patients with chronic lung disease, and these patients were treated for varying conditions. Cultures and other clinical material preserved in the laboratory were analysed and further investigations performed.

During this analysis, it was observed that in 67% of patients treated for chronic lung disease, the etiology is not established and many patients with a fungal etiology were often treated as tuberculosis. The fungus Candida tropicalis emerged as a significant contributor to chronic lung disease. As routine immunological tests for the diagnosis of C. tropicalis infection are not available at present and because commercial antigens or antisera are not available for detection of infection to this fungus immunological tests were developed for the diagnosis of this infection by preparing the both antigens and reference sera in the laboratory.

The efficacy of different antigen preparations in the detection of antibodies to antisera produced in rabbits was evaluated.

Two techniques Double immunodiffusion in agar and Counterimmunoelectrophoresis were developed for the detection of antibodies to this fungus in order that they may be applied to the detection of antibodies in humans.

A limited skin test survey was also carried out on normal individuals and on patients with chronic lung disease. The results are very significant in that delayed hypersensitivity was shown to histoplasmosis and coccidioidomycosis, two systemic fungal infections which are responsible for fatal systemic fungal infection in other countries but not considered in the differential diagnosis of respiratory infections in this country.