CLINICAL AND LABORATORY DIAGNOSIS OF TYPHOID FEVER IN ADULTS IN PERADENIYA HOSPITAL – SRI LANKA

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ABSTRACT

The clinical and laboratory diagnosis of typhoid fever was studied in 400 adult patients presenting with fever. 45 were diagnosed as having typhoid by isolation of *Salmonella typhi* from blood. 110 had proven non typhoidal illnesses.

The clinical experience with typhoid fever in five different geographical areas in the world and spanning a 50 year period was compared. With few exceptions, the clinical picture of typhoid has not changed significantly over the past years. The clinical diagnosis of typhoid fever was not easy. The clinical picture in this study was generally mild with complications seen only in 9% of patients and no deaths. Prolonged pyrexia was suggestive of infection with multi drug resistant *Salmonella typhi.*

Comparison of the Standard Agglutination Test by tube and slide tests were carried out in 47 patients with culture proven typhoid, 91 patients with a clinical and serological diagnosis of typhoid fever and 44 with proven non typhoidal illnesses. Markedly discrepant results with coefficient of correlation statistically not significant were noted using the slide agglutination kits in testing O antibody titres.. Furthermore, sera with a high 'O' antibody titre (O antibody > 1/480) gave negative results at initial screening using the slide agglutination kits..

Three blood culture systems (Blood-BHI, Blood-Bile, Clot-Bile) were tested in parallel for the

isolation of *Salmonella typhi*. The Clot-Bile system showed the highest isolation rate (88.9%) in the shortest time (mean time 6.1 days). However, the isolation rates from blood (11.3%), stools (7%) and urine (2.8%) were low.

48 (32%) multi drug resistant *Salmonella typhi* strains were isolated. All chloramphenicol resistant strains were resistant to several antibiotics in combination. A changing pattern of drug resistance was observed. Chloramphenicol remains the drug of choice for typhoid fever due to sensitive strains. Ciproflòxacin and Ceftriaxone should be retained for the treatment of typhoid fever due to multi drug resistant strains.

Comparison of antibiotic sensitivity testing by disc diffusion and determination of Minimum Inhibitory Concentration (MIC) was done. The highest number of discrepancies were seen with Chloramphenicol followed by Ciprofloxacin and Ceftriaxone. The MIC value is the closest approximation of the true sensitivity of the organism to the antibiotic and discrepancies in results with the disc diffusion method may result in inappropriate treatment. The time taken for deferverscence was longer in patients treated with chloramphenicol from whom sensitive strains with higher MIC values were isolated.

A new indicator system was developed to determine the MIC of different antibiotics for *Salmonella typhi*. The results were identical with that obtained by the agar plate method and a micro broth method without out a sugar indicator. The new system was found to be simple and