

Usefulness of rapid diagnostic test Typhidot-M in early diagnosis of typhoid fever in children

Thambarasi Sundaram

Sri Ramachandra University, India

Objectives: To determine the usefulness of Typhidot M in rapid diagnosis of typhoid fever in children and to determine the sensitivity and specificity of Typhidot M with blood culture as gold standard.

Methods: Blood samples were collected from 130 children who were clinically diagnosed as typhoid fever. Typhidot-M is a dot enzyme immunoassay for detection of specific IgM to *Salmonella* Typhi. Samples were serologically tested with Typhidot assay as per the kit instruction (Typhidot M/s AB Diagnostics Pvt. Ltd). For analysis purpose study group was divided into four; Confirmed Typhoid fever: Diagnosis of typhoid fever as confirmed by positive culture of *S. Typhi*; Probable typhoid fever: Children with fever and with a positive serodiagnosis (WIDAL) or antigen detection test but without *S. Typhi* isolation; Clinical enteric fever: Patient's whose clinical course is compatible with typhoid fever but without *S. Typhi* isolation; and Non-typhoid fever: Children with definitive alternative diagnosis and in whom blood culture is negative for *Salmonella* Typhi.

Results: Of the 130 blood samples, 31 (23.8%) were positive of *Salmonella* Typhi infection and remaining 99 were negative for *Salmonella* Typhi. 54 (41.5%) were typhidot IgM positive. There were no cases in which culture was positive and typhidot negative. But there was false positive in 23 patients (17.6%). Of these 5 were probable typhoid fever, 2 were clinical typhoid fever, 3 had infection with *S. Paratyphi* A and 13 patients in non-typhoid group. The sensitivity, specificity, positive and negative predictive value of Typhidot test in comparison with blood culture were 100%, 76.7%, 57.4%, 100%, respectively.

Conclusions: After analyzing the present study, it was concluded that blood culture remains the gold standard for the diagnosis of typhoid fever. Typhidot M may be an alternative in early and rapid diagnosis of typhoid fever where facility of blood culture is not available.

Biography

Thambarasi Sundaram has completed her MBBS and Post graduation studies from Sri Ramchandra University, India.

thambarasi@gmail.com

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