

Serology test in diagnostic of typhoid fever at Child Health Department Cipto Mangunkusumo Hospital

Said N.F.*, Satari H.I.*, Tambunan T.*, Oesman F.**

*Department of Child Health Faculty of Medicine University of Indonesia.,

**Department of Clinical Pathology Faculty of Medicine University of Indonesia.

Background

Diagnostic of typhoid fever is still a problem, due to non-specific markers and clinical findings. The definitive diagnosis requires isolation of *S.typhi* which only positive in 40% to 60% of cases. PCR have been developed, but are not yet widely used. The Widal test has been widely used, even though Widal test is controversial because of varied cut-off points and cross-reaction with other organism. American Academy of Paediatrics suggested Widal test is not recommended. Newer serologic tests (TUBEX®TF) that had high sensitivity and specificity has been developed and used widely but have never been studied in Indonesian children. TUBEX®TF is a semiquantitative examination to detect IgM antibodies O-9 antigen. The reactans are mixed in specially design microtube and the result is read for 10 minutes based on the resultant color of the supernatant following forced sedimentation of the magnetic beads.

Objective

To study the sensitivity and specificity of RDT in diagnosing typhoid fever.

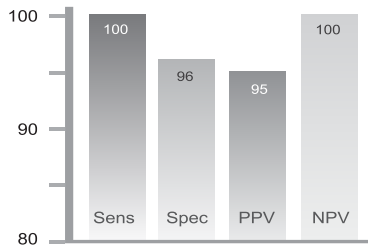
Methods

Prospective study of TUBEX®TF which is confirmed by blood culture to diagnose typhoid fever of pediatric patients in Cipto Mangunkusumo, Tangerang, Budi Asih, Pasar Rebo, Carolus, Pondok Indah and Siloam Hospital between June- October 2007.

Result

Out of 169 samples, consisted of 49.7% males and 50.3% female with the highest frequency of age is more than 5 years and 123 (72.8%) cases were given antibiotics. We studied the value of TUBEX®TF in 46 (27.2%) cases that never receive antibiotics. TUBEX®TF had -100% sensitivity and 96%

specificity with 95.5% PPV, 100% NPV, LR positive 25 and RL negative 0. We also found a cross reaction of TUBEX®TF with others non-*S. typhi* (2 Klepsiella pneumonia, 9 Gram-negative coccus, 2 Pontaea).



Conclusions

TUBEX®TF is a rapid, easy, reliable, sensitive and specific to diagnose typhoid fever in children especially for patients never receive antibiotics.

Key word

Typhoid fever, Salmonella typhi, TUBEX®TF.