

CORRESPONDENCE:

CRITERIA FOR CONFIRMING TYPHOID FEVER

Dear Editor

The Ministry of Health's current guidelines on how to confirm suspected typhoid fever state that confirmation depends upon either:

- i. a positive *S. typhi* culture, or
- ii. an initial Widal O antibody titre of $\geq 1:200$, or
- iii. a rising Widal titre of four-fold in paired sera.

The origin of these values is unreferenced. The latter two criteria are important to define as upto 50% of typhoid cases are unconfirmed by culture,¹ mainly due to the insensitivity of blood culture or previous, ineffectual treatment with antibiotics.² However, we believe that these criteria are too stringent, based upon the following data.

A nonparametric 99th percentile reference range for the Widal O antibody (WOAB) test was constructed by testing sera from a random sample of 436 healthy blood donors resident in Kelantan. A titre of $\geq 1:40$ was found to be outside this reference range. WOAB titres were also measured in 78 culture positive typhoid cases (ST(+)), in 56 culture negative typhoid cases (ST(-)) and in 202 cases of fever due to other causes.

Figure 1 demonstrates that 66 (85%) ST(+) cases had an initial WOAB titre $< 1:200$. ST(-) cases showed a similar pattern, whilst only three non-typhoid fever cases had a titre outside the

reference range. The median rise in titre in ST(+) cases (n=16) was four-fold, but one third of them had a rise less than this. There was no significant difference regarding the rise in titres between ST(+) and ST(-) cases (n=23).

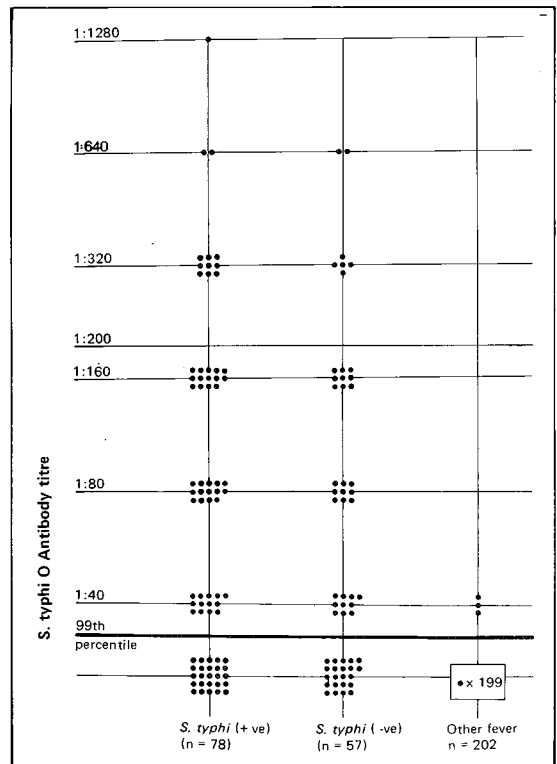


Fig. 1 Initial, Widal O antigen titres in 337 patients presenting with fever. Each closed circle represents one patient.

We have previously reported that the diagnosis of typhoid fever, when the results of culture are unknown or negative, is a probabilistic diagnosis dependent upon several objective, clinical and laboratory features.² That the WOAB titre alone cannot be used to diagnose typhoid fever is illustrated by the fact that one third of our ST(+) cases had an initial titre within the reference range. Nevertheless, it is one of the most useful tests and in our study, each rise in titre doubled the odds in favour of culture positive typhoid, such that a febrile patient with a titre of 1:160 had a 61% probability of being a ST(+) case.

If our own criteria, i.e., an initial titre $\geq 1:40$ or a fourfold rise in titre, were to be applied to ST(-) cases rather than the Ministry's criteria, then twice as many cases would be confirmed. Use of the Ministry's criteria may lead to undernotification of typhoid and an overestimation of the efficacy

of typhoid fever control measures. Due to the variability of background WOAB titres in different communities, diagnostic titres are best calculated by individual laboratories.

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- 2 Ross I N, Abraham T. Predicting enteric fever without bacteriological results. *Trans R Soc Trop Med Hyg* (in press).

STAB WOUND IN HEART OBSERVED IN 1961

Dear Editor

I refer to the article on stab injury to the heart *MJM* 1985; 40(3) : 260-262 and wish to congratulate the author on the successful management of a penetrating injury to the heart.

It is claimed that this may be the first operation of its kind in this country and that it is "even incredible it occurred in a district hospital".

I was house surgeon to Mr K. D. Frazer when a similar case was admitted on my call night in early 1961 in GH, KL. Mr. Frazer repaired the stab wound in the left ventricle with chromic catgut. This patient walked home alive. The anaesthetist was Dr. F. R. Bhupalan.

In 1962 Datuk K. A. Menon operated on a similar case in Ipoh, GH where the anaesthesia was given by Dr A. S. Manavalan.

In the early 60's our General Hospitals were worse than the present day District Hospitals.

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Editorial Note:

Advice to all authors on inadvisability of making claims on being the first to perform "such and such a procedure".
