Clinical-pathological Study of Enteric Fever at Rapti Academy of Health Sciences, Ghorahi, Dang, Nepal

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INTRODUCTION

Typhoid fever, or enteric fever was one of the leading causes of death in the western world 200 years ago [1]. Mortality and morbidity fell in developed nations like Nepal, India, and Latin America as a result of better health and sanitary conditions in the western world [2–6]. Children also were afflicted by typhoid fever, but their mortality and morbidity rates were not very high. In rural Nepal, records are not kept accurately, and many patients are treated. Typhoid should be diagnosed early in order to start treatment before complications arise. Typhoid's most frequent side effects are perforation, peritonitis, and sepsis [6].

Epidemiology

In recent years, Asia, Africa, and Latin America have seen the highest rates of typhoid fever. More than 20 million cases are reported annually, with Bangladesh, India, Pakistan, Nepal, and India accounting for 85% of cases worldwide [7]. Due to the rainy season, South Asia's most prevalent sickness occurred from July to October [8].

MATERIALS AND METHODS

This study was conducted among 240 clinically suspected cases of enteric fever from 17th February 2019 to 17th May 2019 at Rapti academic of health science, Dang. We have done first Blood culture was performed and IgG and IgM method were used to detect enteric fever for same sample. RESULTS: Out of 240 patients, 112 of the 240 cases were men and 128 were women. Blood culture testing revealed 72 positive samples, or 30%, and IgG and IgM testing revealed 64 positive cases, or 26.66%, for the same cases. Therefore, our investigation demonstrated that the blood culture method is equally as successful as the IgG and IgM method. CONCLUSIONS: The study concludes that he blood culture IgG and IgM methods are equally effective. There are not always blood culture settings accessible in developing countries like Nepal. Therefore, IgG and IgM methods are preferable.

Keywords: Blood culture, enteric fever, perforation.
the number of culture positive cases reached 72. IgG and IgM antibodies to S. thyphi can be concurrently detected and distinguished throughout the complete body using a quick and easy laboratory test for typhoid. Anti-human IgM (test line 1), anti-human IgG (test line 2), and goat anti-mouse antibodies were immobilized on the nitrocellulose membrane of the kit (control line). Additionally, mouse IgG and S. typhi-specific antigens were attached to the colloid gold particles, respectively. These conjugates were put on a conjugate pad made of polyester or glass. The result was apparent as a red line within 20 minutes in the test line 1(IgM) and/or in the test line 2(IgG) on the membrane when they migrated with the sample by passive diffusion and both the conjugate and sample come into contact with antibodies against S.typhi [10]. As the solution keeps moving, it comes into contact with a control reagent that binds a control conjugate and creates another red control line. The data was entered into Microsoft Office Excel and analyzed with SPSS version 17.

RESULTS
There were 240 cases of thypoid which have been cl

inically suspected. We provided cultured cases.
72% of the cases were positive, which was 30%. The
re was 20 IgG positive patients and 44 IgM positive
cases where IgM denotes an acute disease, but IgG
denotes a chronic ailment. Total positive cases are 6
4 that is 26.66%.So IgG and IgM methods are as effe
tive as culture.

DISCUSSION
Enteric fever is mainly a clinical diagnosis based on
history and examination. A gradual onset of fever, particularly with one or more abdominal
symptoms, should raise suspicion of enteric fever in
demic areas [11]. Blood culture is the optimum
method to confirm the diagnosis by isolating the
organism and testing antimicrobial sensitivity. It
takes two to three days for a result, and empirical
antimicrobial treatment is required in the interim. It
has a sensitivity of 61% [12].

A negative blood culture does not exclude enteric
fever. Serological tests, including the Widal test and
newer rapid diagnostic tests, are not confirmatory
in the acute phase of illness. The Widal test
measures antibodies against O and H antigens of S
Typhi and S Paratyphi A. It is cheap and simple but
lacks sensitivity and specificity [13]. A single
measurement in the acute phase of the illness may
be false negative or false positive [14]. Other
commercially available, point-of-care rapid
diagnostic tests detect IgM antibodies against S
Typhi antigens [15]. By using culture methods in
which we got 72 positive cases which is 30%. In
other study done by Paul and Bandyopadhyay the
positive cases by blood culture were 80%. That was
more than our study and in same study using IgG
and IgM methods 93% sensitive which almost same
as our study. The blood culture is commonly
positive in first weak. In developing country like
Nepal, the blood culture is not found in
everywhere. So, IgG and IgM is effective method
for diagnosis of thypoid [10]. Although gold
standard is blood culture but our study showed
that IgG and IgM method is as effective as blood
culture. The complication of typhoid fever is fatal to
patients. So, early diagnosis is necessary.

CONCLUSIONS
Enteric fever is common in developing countries
like Nepal ,India ,Bangladesh. Clinically suspected
case first we have done the blood culture and IgG
and IgM Method for diagnosis of patients.
Although the gold standard for typhoid fever is
blood culture but in our study showed the IgG
and IgM method as effective as blood culture. In
developing countries like Nepal blood culture
settings are not available in every where.
So we recommended IgG and IgM method for
diagnosis of enteric fever. Early diagnosis is
necessary to prevent from complications.In our
study other think show that the cases of enteric
fever increased during rainy season. We have to
work on sanitation and hygiene during rainy
season.

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wrote the draft paper. Both the authors had a full discussion and
commented on the paper.

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