A Retrospective Study in the Management of Typhoid
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Abstract-

Typhoid fever is a systemic infection caused by Salmonella enteric serotype Typhus (S. typhus). The disease remains an important public health problem in developing countries. In 2000, it was estimated that over 2.16 million episodes of typhoid occurred worldwide, resulting in 216000 deaths, and that more than 90% of this morbidity and mortality occurred in Asia. Although improved water quality and sanitation constitute ultimate solutions to this problem, vaccination in high-risk areas is a potential control strategy recommended by WHO for the short-to-intermediate term.

Key word: Typhoid fever, known remedy, widal test.

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Introduction-

Typhoid fever is still a major health problem in the developing parts of the world, with an estimated annual incidence of 540 per 100,000. Two safe and efficacious typhoid vaccines, the injectable polysaccharide and the oral Ty21a, have been licensed; and new, improved candidate vaccines are currently being tested. However, typhoid vaccination has not been implemented as a routine public health measure in most typhoid-endemic countries despite the low price of the vaccine and the high cost of treating the disease. Policy-makers in several developing countries have indicated that updated data on the incidence of typhoid in their countries are essential before they introduce the vaccines into programmes. Indeed, population-based estimates of blood culture-confirmed typhoid are sparse. In Asia, disease burden estimates have usually relied on routinely reported, clinically diagnosed cases of typhoid fever compiled by governments or hospitals, usually with uncertain denominators.

Clinical diagnosis of typhoid is not specific because the presenting signs and symptoms are diverse and similar to those of other common febrile illnesses, such as malaria and dengue.
fever. A specific diagnosis of typhoid requires access to a competent laboratory that can process blood cultures; such laboratories are uncommon in resource-poor regions. Population-based studies of the incidence of culture-confirmed typhoid have therefore usually come from the control arms of typhoid vaccine trials.

We conducted prospective population-based surveillance in five Asian countries using standardized surveillance techniques, as well as standardized clinical and microbiological methods, to provide an updated assessment of the burden of typhoid in Asia. The studies were also performed in preparation for a series of effectiveness trials of Vi polysaccharide vaccine. In this paper, we present the disease burden estimates from a 12-month pre-vaccination surveillance period in each site in these five countries.

**Methods**

**Study Sites** - Sites in five Asian countries, which are considered to be endemic for typhoid; China, India, Indonesia, Pakistan, and Viet Nam, participated in the programme. As a result of discussions with local collaborators, we selected study populations that satisfied the following criteria: a high perceived burden of typhoid fever, absence of control programmes against the disease, willingness of the community to participate, and feasibility of a vaccination trial. With the exception of the site in Pakistan, no reliable estimates of the incidence of blood-culture proven typhoid were available. Prior to the onset of surveillance, a census was conducted at each site to enumerate the entire population. Each household and each individual resident in the study areas were assigned unique study numbers and recorded in the project data management system.

**Surveillance**

The age groups under surveillance were selected as those judged by local officials to be the most appropriate targets for typhoid vaccination: 5–60 year-olds in the Chinese site; all ages in the Indian and Indonesian sites; 2–15 year-olds in the Pakistani site; and school-aged children and adolescents (5–18 years) in the Vietnamese site.

Patients residing in the catchment areas and presenting to a treatment facility with fever lasting ≥ 3 days were eligible to participate in the study. The surveillance included both systematic collection of clinical information, recorded on standardized forms, and collection of a single blood culture by venepuncture. Approximately 5–8 ml of blood was collected from adults and used to inoculate Bactec Plus Aerobic culture bottles (Becton Dickinson, New Jersey, United States of America); for children, about 3–5 ml of blood was inoculated into Bactec peds Plus culture bottles.

In the Chinese and Vietnamese sites, all health-care facilities seeing febrile patients from the study area were included (China: 5 hospitals, 23 government clinics, 99 private clinics; Viet Nam: 4 hospitals, 32 government clinics, 55 private clinics). In the Indonesian site, all 8 government public health centres and 2 government hospitals serving the study area
participated in the surveillance. In the Indian site, surveillance involved outpatient and inpatient areas of the 2 government hospitals serving the study population and also 5 study clinics that the project set up in the area. In the Pakistani site, 3 project health-care facilities served as clinics and referral points for the patients. In the Indian and Pakistani sites, in addition to passive surveillance, each household was visited by community health workers on a monthly (India) or weekly (Pakistan) basis to encourage febrile patients to attend participating health-care facilities; also, private practitioners were encouraged to refer patients for free typhoid diagnosis and treatment at these facilities, since the surveillance sites were considered insufficient to capture all cases from the communities.

**Typhoid Perforation: A Review of the Literature**

Typhoid fever is still a major health problem in the developing parts of the world, with an estimated annual incidence of 540 per 100,000. Probably one of the most lethal complications of typhoid fever is ileal perforation, which affects especially young men. We reviewed the literature published after 1960 on typhoid perforation in different developing countries, with special attention to the incidence and outcome of typhoid perforation. Information was obtained on a total number of 1,990 cases of typhoid perforation in 66,157 patients with typhoid fever, published in 52 reports all over the world. The overall frequency of intestinal perforation in typhoid fever was 3% with an overall mortality rate of 39.6%. In an endemic area of typhoid fever, the diagnosis of typhoid perforation should be made on physical examination. Surgery is preferable to medical treatment.

The genus salmonella of family enterobacteriaceae containing more than 2540 serotype is now considered to comprise of two species; Salmonella enteric and salmonella bongori.

There are six subsepecies of salmonella enteric:
(a)- S. Enterica subsptenterica
(b)- S. Enteric subspsalamae
(c)- S. Enteric subsparizonae
(d)- S. Enterica subspdiarizone
(e)- S. Enterica subsphoutena
(f)- S. Enterica subsptindica

The most important salmonella subspecies is S. Enterica subsptenterica which contain more than 1500 serotype including the typhoid and paratyphoid bacilli Salmonellae areGram negative, motile, facultative anaerobe, non-spor forming flagellated bacilli which are 2-3 μmlong and 0.4-0.6 μmin diameter.

Salmonella infections in humans include mainly typhoid fever, caused by S. enteric subs. Enteric serovar Typhi (S.Typhi) and paratyphoid fever which is caused by S.entericasubs. entericaserovar Paratyphi A (S.Paratyphi A). These infections are commonly called as enteric fever which continues to be one of the most serious public health problems worldwide.

S. Paratyphi B and C have also been reported to cause human infections.

Salmonella infection is a major cause of bacterial enteric illness in both humans and animals. It ranges clinically from the common
simple gastroenteritis (diarrhoea, abdominal cramps and fever) to the complicated enteric fevers (including typhoid fever), which are fatal and cause bacteraemia and inflammatory destruction of intestine and other organs requiring an appropriate antibiotic therapy. Salmonella bacilli are frequently found in sewage, river and other waters and soil. Typhoid fever, besides affecting school-age children and young adults, is also an important cause of morbidity among infants and toddlers in whom high rates of complications and hospitalisation have been documented.

Typhoid fever also known simply as typhoid, is bacterial infection due to salmonella typhi that causes symptoms. Symptoms may vary from mild to severe and usually begin six to thirty days after exposure. Often there is a gradual onset of a high fever over several days. Weakness, abdominal pain, constipation, and headache also commonly occur. Diarrhoea is uncommon and vomiting is not usually severe. Some people develop a skin rash with rose coloured spot. In severe cases there may be confusion without treatment symptoms may last weeks or month. Other people may carry the bacterium without begin affected however they are still able to spread the disease to other. Typhoid fever is a type of enteric fever along with paratyphoid fever.

The cause is the bacterium Salmonella typhi, also known as Salmonella Enterica serotype typhi, growing in the intestines and blood. Typhoid is spread by eating or drinking food or water contaminated with the faeces of an infected person. Risk factor include poor sanitation and poor hygiene. Those who travel to the developing world are also at risk. Humans are only animal infected. Diagnosis is by either culturing the bacteria or detecting the bacterium DNA in the Blood, Stool, or Bone Marrow. Culturing the bacterium can be difficult. Bone Marrow testing is the most accurate. Symptoms are similar to that of many other infectious disease. Typhous is a different disease.

A typhoid vaccine can prevent about 30% to 70% of cases during the first two year. The vaccine may have some effect for up to seven year. It is recommended for those at high risk or people travelling to areas where the disease is common. Other efforts to prevent the disease include providing clean drinking water, better sanitation, and better hand washing. until it has been confirmed that an individual infection is cleared ,the individual should not prepare food for other peoples.

**Source Of Infection**

Shortly after World War I typhoid fever was one of the major problems Epidemiological analysis showed that milk was one of the main sources of the infection. Many farms in the neighbourhood of Amsterdam, which provided the city with milk, lay in a district where typhoid was prevalent and sanitation was poor. An attempt to combat the spread of the disease was made by the public health authorities in the following ways: An intensive search for carriers and a strict survey at the farms were instituted, carriers were forbidden to handle milk, the sale of raw milk from farms or houses with cases of typhoid was legally prohibited, the water supply at the farms was...
improved, and the public was educated not to use raw milk. These measures were followed by a rapid decrease in the number of typhoid cases and for many years after 1930 milk was seldom the source of typhoid in Amsterdam. There still remained each year several cases of unknown origin.

The bacteriological examinations were made in the Municipal Public Health Laboratories. In earlier days only Endo's medium was used; in 1927 it was combined with the tetrathionate Enrichment broth of l. Muller. Kauffmann's Enrichment medium did not appreciably improve the results, but when, in 1936 the medium of Wilson and Blair was added, the number of positive Findings increased very much. In An article in 1940, demonstrate that in one series the number of positive Results rose from 165 to 222 by the Use of Wilson and Blair's medium. However, the greatest progress made was in the field of the examination of Surface water. Before this, we never succeeded in tracing with certainty the Source of typhoid infections to water. By means of Wilson and Blair's Medium, we could demonstrate in several Small epidemics and isolated cases in the surroundings of Amsterdam that contaminated water was the source of the infection. In the small fishing town of Volendam we isolated on 13 different Dates typhoid bacilli from various parts Of the canals. In another village, we isolated typhoid bacilli from the ice Covering a frozen canal, where three Weeks previously a child had infected Herself by sucking a piece of ice. However, In the city of Amsterdam surface Water does not play an important part in the spread of the disease. In the first years of the war typhoid did not increase very much; until September, 1944, the situation remained Reasonable. The number of cases was fairly low, although the search for carriers Yielded each year a few hitherto unknown one.

Summary And Conclusion

For the isolation of typhoid bacilli a series of highly selective media should be used, for instance, selenite enrichment fluid and the Wilson-Blair, S.S., Desoxycholate-Citrate media and others. By means of these highly selective media several temporary carriers of typhoid bacilli were found. During and after the war three large epidemics of typhoid were observed one caused by smoked eels, one by salt herrings, and another by milk contaminated by a chronic carrier in a dairy plant.

Homoeopathic Managment

Baptisia - Perhaps no remedy presents a clearer picture of a typical case of typhoid fever than Baptisia, yet it is far from being indicated in every case. Its indication are pretty clearly marked, but it often needs careful distinguishing from other remedies; thus it has a drowsy, stupid state, like Arnica, and it has a black or brownish coated tongue, which is also found under Rhus. Like Arnica, too the patient falls asleep while Answering Question, and the bed feels too hard. It suits poisoned blood conditions, and is applicable to any stage of the disease, unquestionably aborting the disease at times, and the typical symptoms are these: a dull, dark besotted countenance, as if intoxicated; this is very characteristic. The patient feels tired and
bruised all over; again like Arnica, he is restless, and tosses about the bed to find a soft spot, but his restlessness is rather due to the mental than the physical condition. The eyes are heavy and stupid. Delirium is often present, and here we find a peculiar and very characteristic symptom, which is that the patient thinks he is scattered about and this makes him toss about the bed to collect the pieces; there is apt to be, also profound prostration; the tongue may have a brown streak down the centre, the teeth are covered with sordes and the breath is foetid, and all exhalations and discharges from the patient are exceedingly offensive. The temperature is high, and so is the pulse, and there is tenderness in the Ileo-Caecal region. If the characteristic expression of countenance, the characteristic mental condition and the characteristic offensiveness of all discharges are taken into consideration, no mistakes can be made in the indications for Baptisia.

Rhus toxicodendron - It comes in when a putrid decomposition of fluids takes place. It corresponds to any early stage as well. It has restlessness, brown tongue and muscular soreness, all of which are found under Baptisia, but the restlessness of Rhus is to relieve the muscular soreness. The characteristic triangular red tip to the tongue found under this remedy is not found under Baptisia, and if there be a degree to the offensiveness of the discharges it is less under Rhus than under Baptisia.

Arnica Mont. - There is a stupor, and indifference to everything, patients do not know that they are sick, and care less; they go to sleep while answering questions; the head is hot the body cool, and all over there is a bruised feeling; the patient tosses about the bed to find a soft spot; the stools and urine are in involuntary; there are ecchymoses and bed sores, petechiae appear all over the body; finally a condition of stupor arrives characterized by dropping of lower jaw. The three-legged stool of Arnica in this disease is:

1. The bruised, sore feeling all over the body.
2. The ecchymoses.
3. The involuntary stools and urine.

Arsenicum Album- The terrible prostration so characteristic of the drug is accompanied by an irritability and anxiety. The patient is faint and weak, exhausted, perhaps with cold sweat and delirium; the mouth and teeth are covered with sordes; The mouth is sore; there is a Diarrhoea of dark, offensive stools, intense fever and the characteristic Arsenicum thirst. Like Rhus, there is restlessness, but it is rather a “prostrated restlessness” than a “rheumatic restlessness.” All the symptoms of Arsenicum are worse after midnight. An extremely red tongue has always been a guiding and characteristic symptoms of this remedy.

Carbo vegetabilis - Suitable when there is a giving out of vital forces and the patient seems on the brink of dissolution and lies pulse less and cold; feet and legs, especially below the knees, are cold. The discharges are horribly offensive and colliquative. The characteristics are the great prostration, the desire for air patient wants to be fanned all the time -and the cold extremities, which are frequently covered
with cold perspiration; the sunken Hippocratic face, cyanosis, Ecchymoses and bed sores.

**Kali phosphoricum** - A dry, brown tongue, foul and putrid diarrhoea, great debility, low pulse, offensive breath, sordes on teeth, with great mental depression; delirium. Tine blood seems extremely vitiated and full of the typhoid poison. All discharges are extremely offensive.

**References**


3. "Dynamization and Dilution", Complementary and Alternative Medicine (Creighton University Department of Pharmacology), archived from the original on 2002-08-26, retrieved 2009-03-24


7. API Text Book Of Medicine Of Edition 2012 Published by The association of physician of India Mumbai 400011

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