Typhoid fever treatment guidelines 2020



Typhoid fever and paratyphoid fever are bacterial diseases that have an insidious onset characterized by fever, headache, constipation or diarrhea, ailments, chills and myalgia, with several clinical features that reliably distinguish them from various other infectious diseases. Diarrhea can occur, and vomiting is usually not severe. On the trunk may be a transient maculare rash of pink spots. Confusion, delirium and bowel perforation can occur in severe cases, usually after 2 to 3 weeks of illness. The incubation period of typhoid fever is usually 6 to 30 days, and 1 to 10 days for parathyphoid fever. Diagnosis of blood culture is the basis of diagnosis. Bone marrow cultures have a sensitivity of 80% in some studies and may remain positive despite antibiotic therapy. Cultures of stool and urine are positive less frequently. Several crops are usually needed to identify the pathogen. Serological tests, such as the widal test, are not recommended due to the high rate of false positives. Treatment of typhoid fever and parathythoid fever is treated with antibiotics. Resistance to antimicrobials in typhoid infections diagnosed in the United States are caused by strains not susceptible to fluoroquinolone. Therefore, do not use fluoroquinolones for empirical treatment in anticipation of susceptibility results. Patients who have traveled to Pakistan should be treated with azithromycin for simple suspected typhoid and carbapenemoma for severe or complex illness. Treatment can be adjusted when culture and sensitivity results are available. The U.S. Ethyological Agent estimates that 5,700 Typhi salmonella infections occur in people in the United States each year; an estimated 620 of them were hospitalized. The CDC has not made an assessment for South Carolina. The Global Group estimates that there are 11 to 21 million typhoid cases and 200,000 deaths worldwide each year. It is estimated that five million cases of parathioid fever occur worldwide each year. Diagnosed cases In the United States, about 350 patients are diagnosed with parathyroid fever annually. Most diseases are in people who report recent trips to countries where diseases are common, such as India, Bangladesh and Pakistan. These cases do not take into account people who do not seek medical care, who are not tested for either the disease, or whose illness is not reported by the CDC. Sequelae Without therapy, the disease can last 3 to 4 weeks and mortality range from 12% to 30%. Resoff occurs in up to 10% of untreated patients about 1-3 weeks after recovery from the initial and often milder than the original disease. Chronic media condition in which stool or urine crops for Typhi salmonella remain positive more than one year, occurs in up to 5% of infected people. Transmission of typhoid fever and parathythoid fever is usually transmitted through the consumption of drinking water or food contaminated with faeces of people who are chronic carriers of responsible bacteria. Risk groups are very low in the United States, higher among international travelers, and highest among people living in places with poor sanitation and hygiene. Most patients with typhoid fever and paratyphoid fever in the United States report international travel 30 days before illness; most of these patients went to South Asia (e.g. India, Bangladesh, Pakistan). The CDC has been monitoring typhoid fever since 1975 and paratyphoid fever since 2008. About 350 culture-confirmed cases of typhoid fever and 90 culture-confirmed cases of paratyphoid fever were reported annually in the CDC's National Typhoid Surveillance System and Paratyphoid Fever (NTPFS) during 2008-2015. These cases do not take into account people who do not seek medical care, who are not tested for either the disease, or whose illness is not reported by the CDC. The CDC tracks changes in antibiotic resistance in salmonella causing typhoid fever and parathid fever through the National Antimicrobial Resistance Monitoring System (NARMS). Trends in typhoid cases in the United States declined slightly from 2008 to 2015. Since 2016, reported cases have increased slightly. Problems reducing susceptibility to fluoroquinolones (e.g. ciprofloxacin) and the emergence of multidrug resistance have complicated the treatment of infections, especially those acquired in South Asia. There have been reports of sporadic ceftriaxone-resistant typhoid continues in Pakistan. Published 1 August 2014 Last updated 22 December 2017 - Last updated: November - 2015 : 63 Edition : API recommendations Raiesh Upadhvay1, Milind Y Nadkar2, A Muruganathan3, Mangesh Tiwaskar4, Deepak Amarapurkar5, NH Banka6, Ketan K Mehta7, BS Sathyaprakash8 Expert GroupDirector and Head, Department of Gastroenterology and Hepatology, Max Super-Specialty Hospital, New DelhiProfessor, Department of Medicine, Seth G.S. 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With the advent of the disease is becoming increasingly difficult. In addition, there are no standard guidelines specific in India to treat this scourge. In order to bridge this gap in need and for primary care physicians, a first-of-its-kind Enteric Conclave has been held. The meeting was a highly innovative initiative that facilitated a frank exchange of views between gastroenterologists, consultant physicians and general practitioners who came together under a common roof to discuss epidemiology, diagnosis and typhoid use. While gastroenterologists usually get to see only complex forms of the disease, and consultant physicians mostly deal with cases that are serious, most cases in India are cared for by primary care physicians. Thus, experts almost do not see 15% of such cases, while it is the primary care physician who treats typhoid fever at the grassroots level. Many of these doctors are forced to manage their patients in the absence of diagnostic facilities such as blood culture and serological tests. Despite advances in medicine in developing countries, combating a disease such as typhoid may seem like a herculean task. During this focused panel discussion, various important issues related to this serious public health problem in India were discussed. Practical models from all over the country were compared, and best clinical practices were identified. Epidemiological problems of enteric fever in the Indian scenario term enteric fever (EF) include typhoid fever and parathyroid fever. Typhoid fever is caused by a gram-negative organism, Salmonella enterica serovar Typhi (Salmonella typhi), while parathyroid fever is caused by any of the three subspecies of the Salmonella enterica, namely S. paratyphi A, S. schottmuelleri (also called S. paratyphi B) and S. hirsch. Type A is the most common pathogen worldwide, while type B predominates in Europe. Type C is rare and is only found in the Far East. The overall ratio of the disease caused by S. typhi to S. paratyphi is about 10 to 1.1 A panel of experts who participated in the meeting prefers to use the term enteric fever instead of typhoid fever as the former covers both typhoid fever. U enteric fever tends to cause constipation. Therefore, the presence of diarrhoea should instead raise suspicion of a co-infection. Long-term Long-Term Proton pump inhibitors (PPIs) increases the incidence of EF because less or no acid in the stomach facilitates the passage of bacteria without breaking down stomach acid.2 Definitions3 Confirmed dietary fever: Fever ≥38 degrees Celsius for at least three days, with laboratory-confirmed positive culture (blood, bone marrow, gut fluid) C typhi. Probable enteric fever: fever >38 degrees Celsius for at least three days, with positive serodiagnosis or antigen detection in stool or urine (or recurring positive bile or duodenal culture) for more than one year after the onset of acute intestinal fever; Sometimes, S. typhi can be isolated without any history of enteric fever. Pollution and transmission People are the only natural host and reservoir. The infection is transmitted by eating or water contaminated with faeces. Contaminated water, as well as raw fruits and vegetables fertilized with sewage, were the sources of outbreaks. The highest incidence occurs where the water supply serving large populations is contaminated with faeces. Cold foods such as ice cream are recognized as a significant risk factor for transmission of enteric fever. 3 The global prevalence of enteric fever World sees about 22 million new cases of typhoid occur each year. Young children in under-resourced poor areas account for the highest number of cases and mortality rates (215,000 deaths are due to S. typhi infection. The country of South-East Asia, especially children and young adults, bears the brunt of the disease. Other areas of proliferation include Africa and South America. Outbreaks have been reported in the Philippines, Fiji, Fiji and the Philippines. There is evidence that enteric fever is often embodied, so the actual figures may be even higher than the above. 4 The prevalence of enteric fever in India In disease-endemic areas, the annual incidence of enteric fever is about 1%. The peak of the incidence is observed in children aged 5-15 years; but in regions where the disease is highly endemic, as in India, children under the age of 5 may have the highest rates of infection. 5 In 2008, Ochiai et al conducted a prospective population survey in five Asian countries deemed endemic to enterive, using standardized surveillance techniques as well as standardized clinical and microbiological methods to give an update assessment of the burden of enthereria in Asia India. As a the study was selected by Calcutta. Results in India showed in figures 1, 2 and 3.6, the results showed a high incidence of enteric fever in India, with the incidence of pre-school children (ages 5-15). High High The burden in pre-school children underscores the importance of vaccines and birth systems in this age group, as well as older and adolescents.6 Fifty-seven percent of isolates were found to be resistant to nalydixic acid, 1.6% to ciprofloxacin, and 7% were multipragosic (resistant to chloramphenic, ampicillin and cotrimyzolu). Resistance to nalydyxic acid is an indirect marker of fluoroguinolone resistance; Indicating high resistance to fluoroguinolone.6 Since fluoroguinolones are the empirical therapy of choice in enteric fever, increasing antibiotic resistance may require the replacement of low-cost antibiotics with new, expensive agents that may be unavailable and unavailable to many poor patients. It also highlights the need to monitor resistance models and to consider vaccines as disease control tools.6 A prospective study conducted at the Indian Tertiary Hospital found that the prevalence of multiple drug resistance (to chloramphenicole, ampicillin and co-trimoxazole) in organisms causing enteromic fever nearly doubled between 1999 and 2005 (figure 4). While 80% of patients were infected with S. typhi, paratyphium A was a pathogen in 9% of cases. The remaining 11% of patients were infected by other groups S. enterica and E. salmonella, typhimurium, and paratyphi C and senftenberg.8 Social and economic effects of intestinal fever are also high, because patients with acute disease and complications may need to be hospitalized. This leads to the loss of working days and therefore income.3 In the study analyzed the tendency of antibody titers to O and H antigens S. typhi for ten years (1998-2002) and 2007-2011) in Indian patients of different age groups who were diagnosed with enteric fever. This study showed that overall seropositiveness rates during the 10-year study period increased significantly, as shown in Figure 5.9 of the carrier's position when entering the human body, Salmonella typhi crosses the intestinal epithelial layer and is carried by macrophases to the liver, pancreas and spleen. From the liver organisms can be spilled into the gallbladder, where, being resistant to bile, they can remain for long periods of time and lead to either an active infection (cholecystitis) or chronic infection (carrier condition).10 About 3 to 5% of infected people become carriers, especially with gallbladder abnormalities such as gallstones. These people are often impamptom and can remain in this state for many years with little or no detrimental effect. However, they continue to bacteria for long periods of time, thus forming a potential source of infection10 especially in cooking conditions. The story of Typhoid Mary, a cook at the beginning of the beginning New York's century that infected approximately 50 people (three fatally), highlights the role of asymptoom carriers in maintaining the cycle of human-to-human spread.11 chronic carrier condition is the most important risk factor for hepatobiliary carcinoma, as bile-carrying with gallstones have been shown to carry an 8.47 times higher risk of gallbladder cancer.10 It is for these reasons that the eradication of transportation is of paramount importance. Factors influencing epidemiology12.13 Age Incidence of enteric fever in endemic areas tend to be low in the first few years of life, peaking among school-age children and young adults and then falling in middle age. Older people are relatively resilient, probably due to frequent increased immunity. Season in endemic areas peaks of transmission occur in dry weather or early rains. This is because warm and humid conditions favor the growth of the body. Also in the summer, people are more likely to drink water outside their homes, which may be quality. In the rainy season, water can be contaminated. Food habits Food cooked outside the home, such as ice cream or flavored ice drinks from street vendors: Drinking contaminated water: and eating vegetables and salads grown with human waste as fertilizer are the main risks. Other close contact or relative with the recent enteric fever Poor socioeconomic status High population density Poor personal hygiene Lack of sanitation Lack of safe water supply Low toilet use living near open body water Recent consumption of antimicrobials Transmission of enteric fever is also explained by flies, laboratory failures, non-sterile tools, and intercourse. MDR Enteric Fever Was first reported in 1972 with chloramphenic-resistant S. typhi, and since then chloramphenicol or a lot of drug-resistant catori fever (MDREF) has been reported during outbreaks from many parts of the world. MDREF is most commonly associated with hepatomegaly and splenomegaly. Resistance to ceftriaxone and cefixim has been seen in many studies, as well as resistance to quinolones, which indicates that salmonella rapidly develops resistance to quinolones and therefore existing quinolones, such as sparfloxacin, should be used very rationally (1). According to prospective surveillance conducted in the urban slums of Delhi, the direct and indirect costs per episode of the culture-confirmed blood of enteric fever amounted to 3,597 MGR outdoors. In the case of hospitalization, this cost increased (18,131 MKR). Almost similar observations have been made in other studies from other parts of the parts Country. Costs have increased several times due to increased hospitalization and growing resistance to affordable antibiotics. These costs also add to the annual loss of income for affected individuals and their families.15 Diagnostic approach to enteric fever isolation S. typhi from blood, bone marrow, or specific anatomical lesions is the only definitive way of diagnosing enteric fever.3 The presence of characteristic clinical symptoms or demonstrating a specific antibody response induces the disease, but not definitive. The clinical features of the panelists were the view that good clinical history and physical examination are very important for diagnosing enteric fever. In fact, the presence of fever with hepatosplenomegaly should make you think of this condition as one of differential diagnoses. Participants were fully agreed on this and felt that cineri fever could be diagnosed clinically with symptoms such as severe fever, headache, toxemia, abdominal pain (early in children), nausea, dry and covered tongue, relative bradycardia (the most important clinical trait), and pink spots that are rare in clinical practice. First, the liver becomes palpable only a week later.2 Typical Presentation16 7-14 days after taking S. typhi First Week Fever Exhibits step-ladder pattern - i.e., the temperature rises during each day and drops by the next morning. Peaks and troughs gradually rise over time (Figure 6). gastrointestinal manifestations of diffuse abdominal pain and tenderness; Sometimes, fierce colic pain in the upper right quadrant. Monocytic infiltration into Peyer's patches, causing inflammation and narrowing of the bowel lumen, leading to constipation. Other symptoms of Dry Cough Dull Frontal Headache Delirium Stupor Malaise The second week Progressing above the signs and symptoms of plateau fever at 39-40 degrees Celsius Rose salmon color spots, blanching, maculopula on the chest, abdomen and back, may not be visible in dark-skinned individuals 1-4 cm wide, less than 5 in quantity, present in 25% They patients decide within 2-5 days. Represent bacterial embolisms of the dermis abdominal distension Soft splenomegaly Relative bradycardia - the temperature height is not accompanied by a physiological increase in the pulse rate of the Dicrotic pulse - double stroke, The second beat weaker than in the first third week of fever persists Increase in toxemy anorexia Weight Loss Conjunctivitis Thready Pulse Tachypnea Crackles over the lungs of The Severe Abdominal Stretching Sometimes, Folly, Green-Yellow, Liquid Diarrhea (Pea-Soup Diarrhea) Tifoid condition - characterized by apathy, confusion, psychosis due to severe toxemia, myocarditis or intestinal hemorrhage Fourth Fourth Gradual improvement of fever, mental state, and abdominal dystension within a few days of untreated patients may suffer from intestinal and neurological complications of weight loss and debilitating weakness (may last for several months) Asymptomatic carrier condition in some patients, intestinal fever may not be present in the typical manner described above. The presentation of the disease depends on the reaction of the host, geographic region, racial factors and infecting the bacterial strain. Fever: The characteristic pattern of stepladder fever is observed only in 12% of cases, and fever has a steady insidious onset. GI Symptoms: Diarrhea, not Constipation, is common in young children with AIDS and one-third of immunocompetent adults with intestinal fever Other atypical manifestations: Only Fever Severe headaches mimicking meningitis Acute Lobar pneumonia Arthralgias urinary symptoms Severe jaundice Neurological symptoms in some patients, especially in India and Africa, such as delirium, Symptoms of Parkinson's or Guillain-Barre Syndrome that a very toxic species of patient with low counts should cause suspicion of entereria fever or viral infection. Increasing the number usually means sepsis or perforation, with eosinoping is an important finding. Monocytosis is also a common find. The presence of eosinopenia and thrombocytopenia strongly leads to enteric fever.2 Hematological tests17.18 Full blood test of hemoglobin: Honey anemia Total leukocytes (TLC): Low to normal Eosinopenia platelets: Low to normal liver function test: Mildly abnormal serum transainase levels 2 to 3 times the upper limit of normal clinical jaundice is a rarity Significant hepatic dysfunction of rare crop cultures culture : The specificity of blood culture is 100%. For a good harvest, you need to collect at least 25-30 ml of blood. The more blood volume, the better the yield. The ideal time to do a culture of blood is when the patient has chills (rather than when fever spikes as is commonly believed). Blood for culture should be taken before giving the first dose of antibiotics. However, in clinical practice, antibiotics, and blood culture is recommended. It is always best to do a test for sensitivity to antibiotics along with the culture, as it will help to choose the most suitable antibiotic. Culture should be repeated after an hour and then after 24 hours. A unified culture should not be encouraged. (Participants, on the other hand, showed that they rarely did a culture of blood in the primary health care facility, as it expensive for patients. They usually depended on the results of the Widal test and the full blood cell which shows eosinopia and relative lymphocytosis). The positivity decreases due to the introduction of antibiotics; however, the blood culture will continue to test if persistent cases. A lot of the time, contaminants like coagulas-negative staphylococcus in blood culture of the clot is also done.2 The cost of blood culture in India ranges from '600 to '800. Culture involves grafting a sample (blood, bone marrow or stool) into a broth of enrichment, and when there is growth, making subcultures on a solid agar. Biochemical testing is carried out to identify the resulting colonies. This is once again confirmed by the slide of agglutination with the appropriate antisera. 19 Direct blood culture followed by microbiological identification remains the gold standard in the diagnosis of enteric fever. 20 Blood culture shows the body's growth in 7-10 days. 3 However, patients who have started antibiotics may not show any growth. 17 The range of sensitivity of blood culture is estimated to be between 40% and 80%. Sensitivity may be low in endemic areas with high antibiotic use, making it difficult to assess true specificity.18 The inability to isolate organisms may be due to delay in diagnosis, laboratory media limitations, widespread and irrational use of antibiotics, and low cultural blood, especially in children.21 The likelihood of recovery is directly proportional to the volume of blood; Therefore, it is important to have sufficient blood volume taken for culture.20 Due to higher levels of bacteriology in children compared to adults, at least 10-15 ml of blood of schoolchildren and adults. and 2-4 ml from toddlers and preschoolers should be taken to achieve optimal isolation rates. 3 Restrictions in use Less sensitive to diagnosis of infection among children compared to adults 2 Positive in only 40-60% Usually at the beginning of the disease 18 Dear and requires specialized institutions and staff 20 S. typi and S. paratyphi A is not always iconic. even if good microbiological remedies are available 20 bone marrow culture: The culture of bone marrow aspirate is the gold standard for diagnosing enterric fever, 3 and can give positive results even if the patient has started antibiotics. 23 This is of particular importance in patients who have been treated previously have a long history of illness and have had a negative blood culture with the recommended blood volume. 3 This test has 55-67% and specificity of 30%.18 The level of positivity can be further increased to up to 100% if the FAN culture environment is used and growth monitoring is used in automated culture systems.23 Speaking of bone marrow culture, participants said the study is never conducted at the primary health care level. Even otherwise, it should be avoided, given that it is expensive as well as painful. Experts said that, unlike blood culture, bone marrow culture remains positive even after the introduction of antibiotics. Thus, it is more suitable for hospitalized and very sick patients. 2 Restrictions in use Although most sensitive, it is an invasive procedure, and cannot be performed outside of specialized settings 20 has limited clinical value, especially in outpatient management 18 The pattern of difficult to obtain stool culture: Stool culture can help in identifying carriers of typhoid. The chair should be collected from acute patients in a plastic container sterile wide-mouthed and should be treated within two hours of collection. The larger the number of stools collected, the more likely it will be to get a positive result. Rectal tampons can be obtained instead of stool samples, but they are less successful in insulation.3 Chair culture in India costs about '350 to '450. All panelists agreed on the need to make re-chair crops to detect carriers, since they tended to shed bacteria sporadically. Chefs in particular should get their chair culture done to exclude the carrier state, as they can infect large numbers of people with cooking.2 Restrictions in the use of sporadic body shedding in the stool potentially jeopardizes stool cultivation approach20 becomes positive only after the first week of infection and has a much more sensitivity than blood culture (30% vs. 40-90%)18 Low sensitivity in developing countries18 is not commonly used for the culture of the 18th : The culture of urine, according to experts, is usually not done. The positivity of urine culture increases in carriers with urinary tract obstruction. 2 The urine culture for enteric fever has a variable sensitivity range of 0-58%. 18 In India, the cost of urine culture varies from '350 to '450. Culture of pink spots: Punch-biopsy spiked spots can be learned to give a sensitivity of 63% and can be positive even in patients who reviewed serum culture.16 antibiotics.16: To conduct serum culture, 1-3 billion blood is grafted into the tube without anticoagulant. When the convalescent phase begins after about 5 days, a second sample is collected. After blood clotting, the serum is separated and checked immediately or stored for a week without affecting the antibodies titre.3 Duodenal aspirate culture: Sharing experiences in Duodenal aspirate culture, panelists explained that this study may have good sensitivity because bile is directly included in the duodenal noral. However, they added that The test is not practical and represents more academic interest. The culture of duodenal aspirate in chefs can help detect carriers among them. Other materials that may be cultural include bile, secretion of rose stains, purgay from suprapurative lesions, and CSF or sputum if the patient has complications. In the autopsy, the culture of the liver, spleen, gallbladder and mesentery lymph nodes is also positive.2 In the study24 of 36 patients with bacteriologically proven enteric fever, the culture of the duodenum (derived from string capsules) was as sensitive in diagnosis as bone culture and more effective than blood culture and stools. The sensitivity of the culture of duodenal matter was not affected by the duration of the disease or antibiotic therapy. Even on the seventh day of antibiotic treatment, the culture of duodenal content was positive in eight out of 17 patients, while stool culture was positive in only two of the same patients. Aside from good sensitivity, the culture of duodenal convenience.24 However, this method is not widely performed due to poor tolerance to string devices, especially on the part of children.25 According to a comparative study25 different methods of bone marrow culture remain the most effective in children than in adults, while duod culture offers few benefits in young (2 to 6 year olds) children. Molecular Diagnosis of Polymerase Chain Reaction (PCR): PCR is a promising test that is as sensitive as blood culture, but less specific.18 It has been found to be at zgt;90% sensitive; However, but less specific.18 It has been found to be at zgt;90% sensitive and relatively easy to work with. In addition, it can amplify DNA from dead or irrefutable bacteria, providing additional benefit sensitivity. However, but less specific.18 It has been found to be at zgt;90% sensitive and relatively easy to work with. this seems to have limited potential for diagnosing enteric fever. In the absence of any proven PCR tests, the proprietary systems that are currently in use are open to different interpretations and do not meet strict quality control standards for worldwide recognition. 20 PCR is guite expensive, costing from '3800 to '4000 in India. Experts considered that PCR may not meet the criteria of the gold standard for diagnosing enteric fever in terms of sensitivity and specificity, as it does not cover all antigens of the disease. Only antigens 14, 15 and 18 are selected by one PCR test. In addition, this test is not available in remote and peripheral areas. Participants also echoed the same sentiments as they added that PCR is unlikely to Used to diagnose enteric fever in India.2 Nest polymerase chain reaction: Nest polymerase chain reaction: Nest polymerase chain reaction: Nest polymerase chain reaction is more sensitive than PCR and uses H1-D primer to strengthen specific S. typhi genes in patients' blood.18 It includes two

rounds rounds use of two primers with different sequences in the H1-d flagellin S gene. typhi, offering better sensitivity and specificity.16 This is a promising rapid diagnostic test, with the potential to replace blood culture as a new gold standard.18 It is so sensitive that it can detect even one bacterium in a given sample within a few hours. 26 Due to its high sensitivity and specificity, the embedded PCR can serve as a useful tool for diagnosing clinically suspected, culture of negative cases of enteric fever. 27 Benefits of invested PCR 27 Sensitivity 100% and specificity 76.9% Higher detection of cases compared to blood culture even at later stages of the disease (53.8 vs 46.1%) Can be used as a diagnostic tool at any stage of the disease not affected by empirical antibiotic therapy as opposed to blood culture. Therefore, it can serve as an effective diagnostic test even after the onset of antimicrobial therapy. Serological tests Serological tests are the basis for the diagnosis of enteric fever in developing countries.21 S. Tiphi is known to express a number of immunogenic structures on its surface. Among them, O (liposacharide), H (flagella), and several less immunogenic Vi capsules can be determined by serological tests. S. typhi expressing O (O9, O12), Vi, and H:d are abundantly present in most endemic areas. 20 All participating physicians unanimously expressed the same view that although Typhidot, IgM Dipstick, and IDL Tubex tests are promising tests, they are still not used regularly in India. Widal test: According to the World Health Organization, Widal, the most widely available test in India, should not be done until one week after the onset of the fever. Even if it's positive up to one week, it can be false. With the availability of other highly reliable tests, the importance of Widal has diminished. One Widal doesn't matter. It may be outdated; but in the absence of any other reliable conditions, this can be done.2 Widal is the most widely used test in many regions because it is relatively cheaper, easy to operate and requires minimal training and equipment. The test is based on the demonstration of the ascending titer of antibodies in paired samples from 10 to 14 days apart. It uses O and H antigens S. typhi, S. paratyphi A. S. paratyphi A. S. paratyphi B and S. paratyphi C to detect antibodies in the blood.28 At least 1 ml of blood should be collected to obtain sufficient serum. Usually O antibodies take 6-8 days to appear and H antibodies 10-12 days after the onset of disease.3 In acute intestinal fever, therefore, anti-O antibodies are first to rise, then gradually increase in anti-H antibody titer. Anti-H The answer persists longer than anti-O antibody.29 According to a study conducted in Nepal, 29 the alleged diagnosis of enteric fever can be made if significant titers are larger than 1:80 for anti-O and more than for anti-H. However, it is difficult to determine a definite reduction for a positive result because it varies between areas and between times in the data areas. The guadruple growth of the titer of antibodies in a paired serum is considered more diagnostic. 21 Widal has a sensitivity of 47-77% and a specificity of 50-92%. 18 a good predictive value for the absence of disease, Positive result, It appears to have a low predictive value for its presence.28 Benefits of Widal Inexpensive3 Good for screening large numbers of patients in endemic areas Despite mixed results 18 The use of slides instead of pipes gives results faster - in just a few minutes 19 Restrictions in the use of Standardization and guarantee of the quality of reagents may require 18 Moderate sensitivity, specifics, and predictive values differ in different geographical areas 26 Negative in 30% of culture proven cases of enteric fever 3 Pre-antimicrobial treatment can negatively affect the reaction of antibodies3 False-positive results can be obtained in other clinical settings Such as malaria, typhoid, bacteremia and cirrhosis of the liver3 May lead to hyperdiagnosis if relying solely on endemic areas28 Widal should not be performed if the diagnosis has already been confirmed by the isolation of S. typhi from the sterile site.3 While the Widal tube in India costs about '110 to '170, the Widal slide is priced slightly above '150 and '200. Typhidot: Typhidot is a fast point enzyme immunoanalysis (EIA) that takes about three hours, To perform.3 It detects IgG and IgM antibodies to specific 50 kD outer membrane protein (OMP) antigen S, typhi.21 IgM detection means acute intestinal in the early phase of infection.3 Test becomes positive right in the first week of fever and results are available within one hour. Thus, it is faster than the culture of blood and Widal, resulting in results taking 48 and 18 hours, respectively. In addition, this test is simpler and more reliable than Widal.21 Its simplicity, speed, sensitivity (95%), specificity (75%), profitability, ability to detect antigens in the early stages, and high negative and positive predictive values make Typhidot an effective diagnostic tool in resource-poor countries.3 Typhidot, according to experts, is an alternative to Widal, but much more reliable. Typhidot-M is made in cases of acute infection.2 Typhidot in India costs between '300 and '400. in use3 IgG can persist for more than two years after typhoid infection. Thus, detection only IgG can not distinguish acute and convalescent cases. Previous infection can lead to false results. Typhidot-M: Typhidot-M: Typhidot-M: Typhidot-M: Typhidot-M: Typhidot obtained by inactivating the common IgG in the serum sample, which removes competitive bindings and allows the antigen access to specific IgM, thereby increasing the accuracy of diagnosis. If a particular IgM is detected within three hours, it indicates an acute abdominal infection.3 Benefits superior to the culture method in terms of sensitivity (93%), negative predictive value, and speed3 Can replace Widal when used together with the method of culture, for rapid and accurate diagnosis of intestinal fever3 High negative predictive value makes it useful in areas with high endability.3, it is suitable for enteric endemic countries30 latex agglutination test: Studies of the effectiveness of latex agglutination test (LAT) have shown that: With sensitivity 100%, specificity 97.6%, and positive and negative forecast values of 90.9% and 100%, respectively, LAT can be used for the alleged diagnosis of enteric fever in remote medical centers31 LAT can be used for the alleged diagnosis of enteric fever in remote medical centers40 km and 100%. blood culture 32 LAT can be used to quickly diagnose enteric fever Although it cannot replace the traditional blood culture needed to isolate the body to report antibiotic sensitivity 33 IDL Tubex test: Tubex is an antibody-detection test that is user-friendly and can be used at the point of care. 19 This simple one-step quick test can be performed in as little as two minutes.3 Test is as simple and fast as the latex slide agglutination tests have been modified but has been modified but has been modified to improve sensitivity and specific, and can detect IgM O9 antibodies within minutes. A positive result is a certain rate of salmonella infection.3 As Tubex detects only IgM antibodies, rather than Widal, both in terms of sensitivity and specificity.3 Restriction in the use of Negative results can be obtained in patients infected with other serotypes such as S. paraphity A3 IgM dipstick test : IgM dipstick test based on detection of S. typhi-specific antibodies appear a week after the onset of symptoms and signs - this fact should be kept in mind when interpreting a negative serological test.3 Advantages3 Does not require formal training, specialized equipment, electricity or refrigeration storage Results available on the same day that A quick start treatment Is quick and easy to perform Ideally for places where there are no objects of culture Table 2 gives a list of tests according to the week of presentation. The tests were classified as feasible and unfeasible. Unfeasible tests include those that are not readily available, require special equipment, or are not allowed. Keep in mind that the tests are shown after all other feverish conditions have been ruled out. New Tests New Tests in Pipeline Include IgM Saliva Test, Molecular Immunology based on tests and nanotechnology based on tests. 2 Screening for enteric fever carriers. 22 This requires urgent measures to detect carriers as they are a tacit threat to the community. 20 The ideal test for carriers should be rapid, specific, as well as sensitive.22 One such measure is monitoring S. typhi in the chair. However, it can be a hamstrung low level or sporadic shedding and the fact that conventional chair sampling can be expensive, time consuming and unpopular. Another option is based on the observation that intestinal fever carriers may produce higher levels of vi antibodies over long periods of time compared to acutely infected patients. Thus, the development of simple, cheap and non-invasive vi antibodies can be of great help in identifying carriers. 20 Current approaches in the treatment of enteric fever in India over time. Treatment of enteric fever is not only becoming more complex but also costly, due to increased resistance to widely used antibiotics in the South East. and complications that can be life-threatening, the disease only adds to the financial burden of individuals and supports the cycle of poverty. It is estimated that nearly 22 million new cases of enteric fever develop each year, the mortality rate higher in young children from low-resource areas.4 The history of antibiotic therapy in enteric fever since 1948, but plasma-mediated resistance and its rare side effect of bone brain aplasia put it on the shelf. This was followed by the use of trimethoprim-sulfamethoxazole and ampicillin in the 1980s, ceftriaxone and ciprofloxacin proved effective against strains of S. typhi, a multile-resistant drug (MDR). and were therefore the drugs of choice. Ciprofloxacin and locosacin preferred ceftriaxone due to their oral use and profitability. However, a decrease in susceptibility to ciprofloxacin (DCS) is currently being considered. Since the 1990s, azithromycin has performed well and is a promising alternative to fluoroquinolones and cephalosporins.35 recommended by the Expert Group to Combat Enteric Fever after they went through the recommendations of India (IPA) and the Indian Association association (IAP), an advisory group of experts has concluded that it is necessary to simplify the choice of drugs in the treatment of enteric fever. They unanimously stated that fluoroquinolones (especially ciprofloxacin) and cephalosporins (particularly the third and fourth generation) are recommended for use as first-line therapeutics. 2 Table 3 lists drugs recommended by experts for different patient populations, depending on the severity of their condition, reactions to treatment and the possibility of antibiotics in each case, depending on the patient's age and body weight. All of them agreed that it is better to slightly overdose on the patient than to malnourish the patient, when trying to adjust the dose of antibiotic for the patient is calculated for the patient is 600 mg/day, it is advisable to give him 750 mg instead of 500 mg.2 When factors such as intolerance to oral drugs, dehydration, extremes of age, and associated comorbidities are present, parenteral treatment should be administered. Once the patient's condition stabilizes, c/he should gradually de-escalate from parenteral therapy to oral medications. With a deferral period usually of about 5 days, any patient who does not respond adequately can be switched to another drug after stopping the first, or a second drug can be added to the first. 2 However, at any point during the disease, patients may develop symptoms of complications that should serve as red flags for the doctor. Important symptoms of the red flag were listed in table 4.36 cephalosporins: Cefixime, cefpodoxime proxetil, cefipime, and cephtriacson of the extended cephalosporina spectrum, which were very promising in the management of enteric fever. While the first two are managed orally, the last two are given parenterally. The favorable pharmacokinetic profile cefpodoxime proxetil allows twice a day to dosage. In past studies, all 50 strains responsible for enteric fever have been found to be sensitive to ceftriaxone, cefixime, and cefpodoxime.37 The Minimum Inhibitory Concentration (MIC) drug can help predict its effectiveness. When the drug is given at the appropriate dosage on the basis of sound pharmacokinetic and pharmacokinetic and prevention of the status of the carrier of the status of the stat MIC90 cefotax, parenteral cephalophin, were the least with the oral third generation cefixime and parenteral fourth generation cefixime were widely used in enteroral fever. Although cefpodoxim is widely used in childhood infectious diseases, it has not been used much in enteric fever; although it looks pharmacologically on cefixime and cheaper than cefixime. In 140 children assessed on suspicion of enteromic fever, the comparative study showed that cephopodoxim reduced the cost of treatment by 33% compared to cefixim, as well as a safer oral option in children. Both groups showed a similar clinical response with comparable periods for deferral of days and clinical treatment rates. MIC for cephopoxym against all south typhi isolated (n No. 40) was fluoroquinolones: The World Health Organization (WHO) recommends fluoroquinolones in areas known for resistance to senior first-line antibiotics. Cochrane studies have shown that fluoroguinolones have fewer clinical failures compared to ampicillin, amoxicillin, chloramphenicol, and co-trimoxazole; without clinical failures, which have been found to outperform older antibiotics.40 In a simple enteral fever, Caused by nalydyxic acid-resistant infanticide enterica serovars typhi and paratyphi A, the provision of oloxacin (20 mg/kg/day) in two separated doses for 7 days led to rapid fever treatment within 4.7 hours, on average.41 Panelists recalled that the use of guinolones should be avoided in children, older, pregnant women and those who cannot tolerate this class of antibiotics. Alternative treatment regimens should be followed in such patients. In addition, if the culture and sensitivity to antibiotics shows the presence of nalydixine acid-resistant typhi (NARST), the use of guinolones should be avoided, as there is a high probability that the pathogen will be resistant to this class antibiotic. 2 Azithromycin: Azithromycin is safe and effective for managing simple enteral fever. An open label, a non-traumatic study that assessed the efficacy and safety of azithromycin for the treatment of uncomplicated enteric fever. found that azithromycin (20 mg/kg/day for 6 days) was found to be 93% of the subjects, with an average response day of 3.5, as seen in Table 5. No serious side effects were observed.42 Panellists recommended a course of no more than 7 days with azithromycin, as this drug has a stronger penetration of tissues and accumulates in the gallbladder. Thus, while a 5-day course of azithromycin may be considered the equivalent of a 10-day course is as good as the other which is given for 14 days. 2 Compared to intravenous ceftriaxone (75 mg/day; maximum 2.5 g/day) daily for 5 days, oral azithromycin (20 mg/kg/day; maximum 1000 mg/day) almost similar treatment to rats (97% vs. 94%) (Figure 7). No patient on azithromycin and ofloxacin were compared by safety and efficacy in 40 patients with uncomplicated enteric fever. Group I: Patients received locsacin 200 mg orally twice a day for 7 days. Nineteen out of 20 patients from Group II: Patients received azithromycin orally 1 g per day and then 500 mg daily from Day 2 to Day 6. All 20 patients from Group II: Patients received azithromycin orally 1 g per day and then 500 mg daily from Day 2 to Day 6. All 20 patients from Group II: Patients received azithromycin orally 1 g per day and then 500 mg daily from Day 2 to Day 6. All 20 patients from Group II: Patients received azithromycin orally 1 g per day and then 500 mg daily from Day 2 to Day 6. All 20 patients from Group II: Patients received azithromycin orally 1 g per day and then 500 mg daily from Day 2 to Day 6. All 20 patients from Group II: Patients received azithromycin orally 1 g per day and then 500 mg daily from Day 2 to Day 6. All 20 patients from Group II: Patients received azithromycin orally 1 g per day and then 500 mg daily from Day 2 to Day 6. All 20 patients from Group II: Patients received azithromycin orally 1 g per day and then 500 mg daily from Day 2 to Day 6. All 20 patients from Group II: Patients received azithromycin orally 1 g per day and then 500 mg daily from Day 6. All 20 patients from Group II: Patients received azithromycin orally 1 g per day and then 500 mg daily from Day 6. All 20 patients from Group II: Patients received azithromycin orally 1 g per day and then 500 mg daily from Day 6. All 20 patients from Group II: Patients received azithromycin orally 1 g per day and then 500 mg daily from Day 6. All 20 patients from Group II: Patients received azithromycin orally 1 g per day and then 500 mg daily from Day 6. All 20 patients from Group II: Patients received azithromycin orally 1 g per day and then 500 mg daily from Day 6. All 20 patients from Group I were treated with an average fever treatment time of 3.65 days. Ofloxacin and azithromycin are almost equally effective and safe for enteric fever, and azithromycin can be used as an alternative when oloxacin is contraindicated, as in children, pregnant women, and guinolones resistant cases of enteric fever. 44 Single against multiple drug regimens Experts have stated that there are no clear guidelines for the operation of monotherapy and combination. Since it is impossible to say whether the patients in and around the area to assume resistance or sensitivity to a particular drug. Although culture and sensitivity to antibiotics would be desirable in all cases, most physicians depend on clinical signs and symptoms in treating patients with enteric fever and refer them to a tertiary care center when complications are suspected. If the patient does not seem to be responding to the first-line drugs by the 5th day of treatment, an alternative treatment option should be considered. Combination therapy fails. Typically, fluoroquinolone is the first drug of choice. If the answer is insufficient, oral cephalosporin, cefixime, is added. If the patient's condition is still unsatisfactory, the former drug is removed and added to azithromycin. A number of doctors use combinations of fixed doses these lack of flexibility in dosing. The emergence of MDR S. typhi and concerns about the delayed response to guinolones have led to much anxiety among treating physicians. There have been several takes on the use of one compared to several therapies. While some advocate this, others recommend using them only in unrequited cases. A comparative Indian analysis was carried out in 62 cases of enteric fever, proven by blood culture, of which 59% received one drug (quinolones or cephalosporine); and 40.3% of cases received 2 drugs at the same time of the disease to the time of the postponement 13.54 days and 13.84 days in single-cell and multi-drug groups, groups, The average duration of deferral after the onset of antimicrobial therapy in a group with one drug was 5.24 days; and in the multidrug groups. This reinforces the traditional recommendation of treating enteric fever, and the introduction of several drugs should be limited to unresponsive cases.45 The role of perforation of enteric fever surgery is a common surgical emergency in developing countries, but optimal operational management is debatable.46 Primary ileostomy has been shown to be the best surgical option compared to others and can be a life saviour, especially in patients who are present at the end of the disease with rapidly deteriorating health.47 Enteroric perforation should always be considered a life-saving, especially in patients who are present at the end of the disease with rapidly deteriorating health.47 Enteroric perforal treatment should always be considered a life-saving option, especially in patients who are present at the end of the disease with rapidly deterioration should always be considered a life-saving., and timely surgery within 24 hours, with adequate and aggressive resuscitation, reduces morbidity and mortality.48 Panellists also considered the type of surgery that ideally should be taken to work on such perforation. They concluded that if the CT image helped detect the exact location of the perforation, laparoscopic surgery could be performed; however, if the site has not been identified, then open surgery is recommended.2 Antibiotic resistance As previously seen, the basis for the management of enteric fever is the use of antibiotics, especially broad-spectrum antibiotics, can lead to resistance. The most common factors that lead to antibiotic resistance are the abuse and overuse of these drugs.49 The re-emergence of chloramphenicol susceptibility in S. enterica gravar typhi isolates has been witnessed in some regions of India where susceptibility has been established at up to 95%. Investigators suggested the use of chloramphenicol, along with the third generation of cephalosporins in enteric fever due to ciprofloxacin-resistant S, enterica serovar typhi infection.50 Resistance to fluoroquinolones led to greater use of azithromycin and third-generation cephalosporins. There are reports worldwide of high resistance to extended-spectrum cephalosporins (e.g. ceftriaxone). The spread of such resistance would further limit the therapeutic options available, with only standby antimicrobials such as carbapenem and tigecycline as possible treatment options.50 it is assumed that guinolones and guinolones and the third generation should be used as first-line antimicrobials for enteric fever. The use of fourthgeneration cephalosporins should be limited to complex or persistent cases.51 Recurrence of enteric fever, as has been the case for 15 years in 1,650 children in MDR strains in south Asia. Despite the decrease in morbidity and mortality associated with enteric fever due to the onset of antibiotics, relapses continue to occur in up to 10% of patients, even if they are immunocompetent. Patients with drug-resistant enteric fever who received ineffective therapy had a relapse rate almost twice as high as in patients infected with pansensitivity strains (table 6). Diarrhoea is associated with lower rates of relapse in children infected with panic-sensitive enteric fever. Those who are infected with MDR strains have a higher rate of relapse when presenting constipation or starting specific therapy within 14 days of the onset of fever. The use of guinolones or cephalosporins as part of the course of treatment protects against subsequent relapse. In areas where MDR enteric fever, Called C, typhoid common, the empirical treatment of patients with cephalosporin or guinolon should be considered until the infection is caused by a drug-sensitive strain.52 The role of corticosteroids Expert experts strongly stated that steroids should be used strictly under the supervision of a qualified physician.2 When to direct patients with a fever that lasts more than 7 days should be evaluated. Referral to tertiary care center should be done when there is any evidence of complications such as encephalopathy, gastrointestinal hemorrhage, glomerulonephritis, myocarditis, perforation, and shock. Other rare complications that serve as red flags include apathy, the presence of basal crepitations, coma, endocarditis, Guillain-Barre syndrome, neuritis, meningitis, osteomyelitis, pancreatitis, pericarditis, psychosis, pyelonephritis, and unexplained tachyphine. It is also recommended to refer the patient in case of any diagnostic confusion or when he/he does not respond to the primary or secondary line of antibiotic treatment.55 Treatment of carriers a person is considered a chronic carrier, if he/he is imptomatic, but his or her stool or rectal tampon crops a positive result for the presence of S. typhi, a year after recovery.22 There are basically three types of carriers, namely convalescent carriers that continue to shed bacilli in the feces for 3 weeks to 3 months; temporary carriers that shed bacilli for more than 3 months to a year; and chronic carriers that have shed bacilli for more than a year.56 Vi (virulence) antibody test has value in screening for carriers. WHO recommends using ciprofloxacin 750 mg twice a day for 4 months or 52 weeks. Not for use in pregnant women. It can only be used in children if the benefits outweigh the risks. If there is cholelitis, cholecystectomy cholecystectomy Schistosomiasis, if any, should be treated.54 The management guidelines of the IAP Task Force have made the following statements: 53 Timely and appropriate treatment of enteric fever reduces morbidity and mortality. General support measures such as antipyretic use, hydration maintenance, proper nutrition, and rapid recognition and treatment of complications provide a favorable outcome. In areas of endemic disease, 90% or more of enteric fever cases can be managed at home with proper oral antibiotics and good care. Careful follow-up treatment is needed to identify complications or inability to therapy. Nalydixinic acid-resistant S. typhi (NARST) species typically show a decrease in susceptibility to fluoroquinolones. Third-generation cephalosporins are recommended for the treatment of the first line. While cefixime and cefoodoxime proxetil are administered orally, ceftriaxone, cefotaxim and cefoperazone are given parenterally. Of these, ceftriaxone is the most convenient to use. Oral third-generation cephalosporins should be given in higher doses to treat enteric fever. Azithromycin is the preferred alternative agent for uncomplicated enteric fever. Aztreonam and imegenem are potential second-line drugs. For life-threatening infections resistant to all other recommended antibiotics, fluoroguinolones can be used. Below are WHO's recommendations:54 Culture and sensitivity tests should be used to guide the choice of antibiotics. Fluoroguinolones are the best choice for the treatment of enteric fever in all age groups. In areas where bacterial species are still sensitive to traditional first-line drugs (chloramphenicol, ampicillin, or trimethoprite-sulfametoxazole), and fluoroguinolones are not available or affordable, these drugs remain suitable for the treatment of enteric fever. Support measures such as oral or intravenous hydration, antipyretic agents, appropriate nutrition and blood transfusion are also important. Electrolyte imbalance, anemia, and thrombocytopenia should also be corrected. People infected with enteric fever or exposed to an infected enteric fever should not be allowed to work if their work is related to food processing or care for children, patients or the elderly, and should not prepare food for others. As enteric fever can be carried on your hands it is very important to wash your hands thoroughly after using the toilet and before processing food. Hands should be washed with soap and water for at least 15 seconds, well rinsed and dried. In order to prevent enteric fever and its complications, strategies for preventing enteric fever, as well as secondary prevention methods are trying to reduce disease-related morbidity and mortality, primary prevention approaches suggest measures that help avoid infection completely or at least prevent prevention The goal of secondary prevention is to reduce the clinical severity of enteric fever and its complications so that it does not become fatal. The judicious use of effective antimicrobials in the early stages of the disease is the most important component of secondary prevention. When prescribing antibiotics to patients who have acquired an infection from regions where S. typhi species are multidrug-resistant, it is advisable to choose a drug based on the most ongoing reviews.57 Primary prevention of environmental measures to ensure the supply of treated water along with proper sanitation, the identification of chronic carriers of enteric fever to break the chain of transmission of the disease, and the vaccination of susceptible hosts in order to make them immune to the body, make them immune to the body. Unfortunately, the cost implications in many parts of developing countries continue to have poor sanitation and drinking water that is not drinking.57 The need for adequate sanitary and uncontaminated consumables: Chlorination of drinking water at home should be promoted. Processed water should preferably be stored in a narrow mouth and stretched by tilting the container or using a tap to avoid contamination. People should be encouraged to use toilets at home, and waste disposal should be taken when storing milk and cooking dairv products. The Department of Public Health should work out the guality of drinking water supplied to the community. Hospital observation can help assess the effectiveness of such interventions.58 The World Health Organization (WHO) has proposed several tips on safer foods that have been listed in Table 7.54 Identification and Treatment of Chronic Carriers: Chronic carriers of the pathogen responsible for the development of enteric fever can cause localized or sporadic cases, especially if they treat food consumed by others. Once identified, they must be taken away from these situations. Since nearly 90% of chronic carriers exhibit high Vi serum antibody titers, serological tests to detect the same can be useful for screening. Maintaining chair crops repeatedly after inducing strong cleansing can also serve this purpose. Several weeks of oral ciprofloxacin or norflocksacin therapy has been shown to eradicate the carrier's condition in 90% of cases, without the need for cholecystectomy, which is used for past.57 Vaccination: The use of available vaccines appears to be the most lucrative preventive measures. Despite the fact that the first for typhoid was introduced by Wright back in 1896, its effectiveness was established through controlled field testing nearly seven decades later. Vaccination against typhoid fever as usual is not required in countries with high sanitary standards. However, its administration is recommended for individuals traveling to areas of the world where typhoid fever is endemic, people who are in close contact with chronic typhoid carriers, and laboratory staff who process samples containing the bacteria S. typhi, S. typhi, S. typhi, S. typhi, S. typhi, S. paratyphi A) and S. paratyphi A) and a traditional typhoid vaccine A and B (TAB) (containing S. typhi, S. paratyphi A) and S. paratyphi B). At the moment, there are only two types of typhoid vaccines available on the Indian market for clinical use, namely the Vi-PS and the oral vaccines was made in Table 8.59 Since both of these vaccines are safe and do not produce serious side effects, they are good for public health and school immunization programs. Employment of these vaccines has been recommended by WHO for children living in areas where typhoid fever is endemic and antibiotic-resistant strains of S. typhi are present. In 2013, the Vi-PS vaccine was licensed for clinical use in India by the Comptroller General of Drugs (DCGI). The rate of seroconversion reported with this vaccine was 98.05%, but a significant drop in antibody titers was observed after 18 months, indicating the need for a booster dose. The exact timing of the booster dose can only be set at subsequent points for a long period.59 Although enteric fever is common in India, and there are concerns about the prevalence of multidrug-resistant strains, the typhoid of daily productive working hours as a result of illness. Therefore, the expert panel recommends the use of these two abdominal vaccines regularly in unvaccinated adults, especially those at high risk.59 The Vi-TT vaccine is a fourth-generation typhoid vaccine developed by an Indian biotechnology company. After testing and testing for the efficacy and safety of more than a thousand people from different age groups, the vaccine was launched in Hyderabad in 2013. As can be seen from the four-fold in serum igA responses of patients, the vaccine caused seroconversion 98% in infants between the ages of 6 and 24 months, 99% in children between the ages of 2 and 15, and 92% in 15-45 years of age. It has been shown to outperform vi-PS typhoid vaccines, and has a good safety profile, tolerated by people of all tested age groups.59 Complications of enteric fever When patients with enteric fever remain untreated, its complications tend to occur in the third and fourth weeks of infection, the rate of complications is up to 15%. The most important complications that occur in clinical practice include gastrointestinal bleeding, perforation of the intestines, bronchitis, encephalopathy with confusion as a result of toxmia, and toxic myocarditis.60 Panellists believed that it is important for the attending physician to recognize various complications of intestinal fever early and plan their line of control accordingly, because a number of complications need to be managed in a tertiary medical center and therefore cause for a timely referral followed by medical management with appropriate antibiotics along with any surgical interventions If found to be necessary. 2 They were of the opinion that complications of enteric fever are not very commonly seen in primary care settings and at the family doctor level. Some doctors see only one or two complex cases a year from time to time, with children and elderly patients who are more likely to develop complications compared to those from other age groups. They believed that there was a need for doctors to identify red flag symptoms like dehydration, toxicity, altered sensor, and abdominal stiffness and protection in these patients at an early stage, so that the development of major complications could be prevented, and associated mortality could be reduced. Doctors should also look for a certain age or gender complications of gastrointestinal compli intestinal fever can range from something as benign as problem that can prove fatal, such as bowel perforation or bleeding. Gastrointestinal bleeding, Gastrointest Severe untreated cases of intestinal fever are associated with the development of intestinal as well as additional intestinal complications. Surgery may be required to manage certain complications. Surgery may be required to manage certain complications associated with a small intestinal fever are associated with the development of intestinal complications associated with a small intestine, acalculous cholecystitis, gallbladder perforation, or gangrene.61 Salmonella cholecystitis, a rare complication of salmonella typhi infection, presents with high fever, jaundice and right-sided abdominal pain (triada Characeco). Delicate hepatomegaly and gallbladder are the usual test results.62 Intestinal perforation Most serious serious intestinal fever is a perforation of the intestine, since the incidence and mortality associated with it is high. The rate of endemic intestinal fever, the incidence of bowel perforation varies geographically, the perforation rate of entereria in India is higher due to factors such as drought, illiteracy, poverty and the spread of multidrugresistant bacterial strains. Young people in the second or third decade of life are more likely to develop this complication, as they tend to eat street food more often, practice poor hand hygiene and neglect their health.63 II Perforation is more likely to occur in remote areas due to lack of good health facilities. Factors associated with an increased risk of perforation include male sex, leukopenia, short duration of the disease, presence of bacterial strains resistant to multidrug progression, and incomplete antibiotic therapy. A treated surgeon usually finds it difficult to manage cases such as patients presenting themselves or being diagnosed late after initially being treated by charlatans.63 The indiscriminate use of glucocorticoids, lack of awareness, poverty, and poor medical and transportation facilities complicate matters further. While perforation-related deaths associated with enteric fever range from 0 to 2% in developed countries, they are much higher (9-22%) and are much higher (9-22%). in developing countries, for reasons such as want intensive care, poor resuscitation facilities, antibiotic resistance, regional taboos, delay in surgery, more perforations, fecal peritonitis, and increased duration of the disease.63 Clinical features of intestinal perforation and their incidence rates were reported by a retrospective study of 155 patients who were operated on for bowel perforation due to intestinal fever in the central Indian district hospital. It is advisable to manage such cases with timely and appropriate surgery, safe anesthesia, proper prompt care, and the use of broadspectrum antibiotics with low resistance.63 gastrointestinal bleeding of the gastrointestinal tract usually occurs in the third week as a result of an ulcer that occurs due to necrosis in the small intestine. About 20% of patients with enteric fever tested positive for occult blood in their stool. Massive bleeding is very rare to see, although gross bleeding can occur in 10% of patients. The first signs of bleeding are a sharp drop in blood pressure and body temperature, the first drop to 80-90 mm Hg. art or even lower, and the patient is in a state of shock. Before has been detected and used to treat enteric fever, the incidence of perforations has been higher. While perforations usually occur in the third week of infection, with Part of the ileum is involved most of the time, they can occur in the form of either occult blood in the stool or melen. In intestinal fever, this is due to the erosion of Peyer's areas into the intestinal vessel. On the colonoscopy, it is seen that the terminal ileia is the most frequently involved site, followed by an ileocecal valve, ascending colon, and transverse colon. The ulcers seen in such cases are usually somewhat and slapped on appearance, and their edges are slightly elevated.64 Additional intestinal complications S. typhi infection can sometimes manifest with additional intestinal infectious complications, especially in patients who have just been in an endemic region and are returning home. This may help prevent delays in the diagnosis of enteric fever.36 Hematological complications have been witnessed in patients suffering from enteric fever, such as hemolytic anemia, hemolytic uremic syndrome, and common intravascular coagulation (DIC). In these patients, the level of haemoglobin and platelets may be normal or low, but their leukocytic number may be low, normal or high. As a rule, there is evidence of eosinopenia, and the extension of prothrombinal time is also detected 60 Neurological complications Neurological complications in enteric fever vary (5-35%) in accordance with the degree of drug resistance. Meningism and acute confusion are the most frequent manifestations. Confusion can be intermittent and appears as apathy in many patients.60 Indian study found that 27.1% of patients suffering from enteric fever had neurologica manifestations, and mortality was 6.35%. This only shows how important early detection of such complications during enteric fever is. Figure 8 graphically shows the common neurological complications of enteric fever is. neurological symptom and occurred 2-18 days (average 5.9 days) after the onset of fever. The average duration was 7.3 days (1-7 days). Clinical features of the condition delusions associated with enteric fever and their prevalence in delusional patients among the population studies have been shown in figure 9.65 The conclusion of enteric fever is very common in Asian countries, especially in India; and it progresses pretty guickly to present with complications that be both intestinal and extra intestinal. Delirium and Neurological Neurological may also occur in some patients. Thus, there is a need for the treatment of doctors to remain alert when managing such cases. Early detection of red flag symptoms, which foreshadow complications and impending dangers, can go a long way towards ensuring that the patient is treated appropriately and properly, thereby reducing the incidence and mortality associated with the disease. The condition can be very effectively treated with appropriate use of drugs such as fluoroquinolones, cephalosporins, and azithromycin; however, the indiscriminate use of drugs such as fluoroquinolones. enteric fever. Although the condition is usually treated with medical at times, surgery may be required from time to time to manage certain complications. Strategies to reduce the burden of disease include the supply of purified water, thoughtful disposal of wastewater and other waste, the practice of hygienic eating habits, the detection and treatment of chronic enteromic fever carriers, and the vaccination of susceptible hosts. Vi-PS and Ty21a vaccines shows that the first one is safer and more cost-effective than the latter. The Locally developed Vi-TT vaccine seems to promise many promises and could become a vaccine of choice in the coming days. Recognition by Dr. M.A. Haradi, Ahmedabad; Dr. Vijay Sharma, Amritsar; Dr. Ajit Kumar, Bangalore; Dr. Bharat Kumar, Bangalore; Dr. Sanjeev Murthy, Bangalore; Dr. M.B. Sesachandra, Bangalore; Dr. Ramesh S. Chaksota, Bhivandi; Dr. Ruby Bansal, Delhi; Dr. R.K. Lutaria, Delhi; Dr. Hardeep Singh Ruproi, Delhi; Dr. Venkata Arella, Hyderabad; Dr. Vijay Gopala, Hyderabad; Dr. Kodali Vijay Kumar, Delhi; Dr. Hardeep Singh Ruproi, Delhi; Dr. Venkata Arella, Hyderabad; Dr. Kodali Vijay Kumar, Delhi; Dr. Rajesh Kumar, Delhi; Dr. Hardeep Singh Ruproi, Delhi; Dr. Venkata Arella, Hyderabad; Dr. Kodali Vijay Kumar, Delhi; Dr. Hardeep Singh Ruproi, Delhi; Dr. Venkata Arella, Hyderabad; Dr. Kodali Vijay Kumar, Delhi; Dr. Hardeep Singh Ruproi, Delhi; Dr. Venkata Arella, Hyderabad; Dr. Kodali Vijay Kumar, Delhi; Dr. Hardeep Singh Ruproi, Delhi; Dr. Venkata Arella, Hyderabad; Dr. Kodali Vijay Kumar, Delhi; Dr. Hardeep Singh Ruproi, Delhi; Dr. Venkata Arella, Hyderabad; Dr. Kodali Vijay Kumar, Delhi; Dr. Hardeep Singh Ruproi, Delhi; Dr. Venkata Arella, Hyderabad; Dr. Kodali Vijay Kumar, Delhi; Dr. Hardeep Singh Ruproi, Delhi; Dr. Venkata Arella, Hyderabad; Dr. Kodali Vijay Kumar, Delhi; Dr. Hardeep Singh Ruproi, Delhi; Dr. Venkata Arella, Hyderabad; Dr. Kodali Vijay Kumar, Delhi; Dr. Hardeep Singh Ruproi, Delhi; Dr. Venkata Arella, Hyderabad; Dr. Kodali Vijay Kumar, Delhi; Dr. Hardeep Singh Ruproi, Delhi; Dr. Hardeep Singh Ruproi, Delhi; Dr. Venkata Arella, Hyderabad; Dr. Kodali Vijay Kumar, Delhi; Dr. Hardeep Singh Ruproi, Delhi; Dr. H Hyderabad: Dr. C.K. Reddy, Hyderabad: Dr. Bahubali Jain, Indore: Dr. Prabhat Jain, Indore: Dr. C.S. Sabharwal, Indore: Dr. R.N. Tripathi, Kanpur: Dr. Abhav Kumar, Kolkata: Dr. Nirmal Mukheriee, Kolkata: Dr. S.K. Nasirudin, Kolkata: Dr. I.M. Sarathia, Mumbai: Dr. T.N. Shetty, Mumbai: Dr. Abhav Kumar, Kolkata: Dr. Nirmal Mukheriee, Kolkata: Dr. S.K. Nasirudin, Kolkata: Dr. J.M. Sarathia, Mumbai: Dr. T.N. Shetty, Mumbai: Dr. Abhav Kumar, Kolkata: Dr. Nirmal Mukheriee, Kolkata: Dr. S.K. Nasirudin, Kolkata: Dr. I.M. Sarathia, Mumbai: Dr. T.N. Shetty, Mumbai: Dr. S.K. Nasirudin, Kolkata: Dr. Siddart Chandra, Patna; Dr. Ravi Kumar Keshav, Patna; Dr. Awadhesh Kumar Singh, Patna; Dr. N. Gidwani, Pune; Dr. R.W. Motwani, Rajkot; Dr. Milind Kadam, Thane; Dr. R.W. Motwani, Rajkot; Dr. Milind Kadam, Thane; Dr. R.W. Motwani, Rajkot; Dr. Milind Kadam, Thane; Dr. R.W. Motwani, Pune; Dr. R.W. Motwani, Pune; Dr. R.W. Motwani, Rajkot; Dr. Milind Kadam, Thane; Dr. N. Gidwani, Pune; Dr. R.W. Motwani, Rajkot; Dr. Milind Kadam, Thane; Dr. N. Gidwani, Pune; Dr. R.W. Motwani, Rajkot; Dr. Milind Kadam, Thane; Dr. N. Gidwani, Pune; Dr. N. Gidwani, Pun Diagnosis, treatment and prevention of typhoid. Infectious disease surveillance and response of vaccines and biologics. World Health Organization (Internet) 2015 April 6). Available from: TC, Blohmke CJ, Pollard AJ. Aj. epidemiology, diagnosis and models of human problems. Curr Opin Gastroenterol 2014; 30:7-17. Brooks WA, Hossein A, Goswami D, Nahar K, Alam K, Ahmed N. Bacterimic typhoid in children in urban slums, Bangladesh. Emerg Infect Dis 2005; 11:326-9. Ochiai RL, Acosta CJ, Danovaro-Holliday MC, et al. Typhoid Study Group. Study of typhoid in five Asian countries: the burden of disease and the effects on control. Bull World Health Organ 2008; 86:260-8. Ray P, Sharma J, Marak RS, Garg RK. Predictive effectiveness of nalydyxic acid resistance of fluoroquinolone in Salmonella enterica var Typhi. Indian J Med Res 2006; 124:105-8. Kumar S, Rizvi M, Berry N. Increased prevalence of enteric fever due to multidrug-resistant salmonella: epidemiological study. J Med Microbiol 2008; 57:1247-50. Banerjee T, Shukla BN, Filgona J, Anupurba S, Sen MR. Trends of abdominal typhoid seropence trends for ten years in northern India. Indian J Med Res 2014; 140:310-3. Prouty AM, Schwesinger WH, Gunn JS. The formation of biofilm and interaction with the surfaces of gallstones salmonella spp. Infect Immun 2002; 70:2640-9. Brooks J. The sad and tragic life of Tifoid Mary. CMAJ 1996; 154:915. Sur D, Ali M, von Seidlein L, Mann B, Dean JL, Acosta CJ, Clemens JD, Bhattacharya SK. Comparison of typhoid predictions and paratyphoid fever in Kolkata, India. BMC Public Health. 2007; 7:289. Parry CM. Epidemiological and clinical aspects of human typhoid. In: Mastari M, Maskell D, eds. 'Salmonella' Infections: Clinical, Immunological and Molecular Aspects (Internet). Cambridge University Press, 2005 (cited 2015 April 7). Available from: Hareshwaree HB, Purohit PH, Abeda MG. Study of the clinical profile of multiple drug-resistant typhoid in children. NJIRM 2011; 2:87-90. Sharma P, Taneja DK. Tifoid vaccine: a case for inclusion in the national program. Indian J Public Health 2011; 55:267-71. Tifoid fever Internet 2015 (cited 2015 April 7). Available from: diagnosis of typhoid infection step by step. BMJ Best Practice (Internet) (cited 2015 April 7). Available from: Bhutta, Dewraj HL. Modern concepts in the diagnosis and treatment of typhoid. BMJ 2006; 333:78 82. Tam FCH, Ling TKW, Wong KT, Leung DTM, Chan RCY. The TUBEX test detects not only typhoidspecific antibodies, but also soluble antigens and whole bacteria. J Med Microbiol 2008; 57: 316-323. Baker S, Favorov M, Dugan G. Search for elusive typhoid diagnosis. BMC Infectious Diseases 2010; 10:45. H, Nayak S, Pai AKB, Rai R, Carnaker W, Ganesh HR. Systematic assessment of rapid point EIA, blood culture and visible test when diagnosing typhoid. Typhus. 2013; 3:21-4. Ismail A. New advances in the diagnosis of typhoid carriers. Malays J Med Sci 2000; 7:3-8. Pathogeneze Singh S. and Laboratory Diagnostics. JIACM 2001; 2:17-20. Benavente L, Gotuzzo J, Guerra O, Grados H, Bravo N. Diagnosis of typhoid using a string capsule device. Trans R Soc Trop Med Hyg 1984; 78:404-6. Vallenas C, Hernandez H, Kay B, Black R, Gotuzzo E. Effectiveness of bone marrow, blood, stool and duodenum culture content of bacteriological typhoid in children. Pediatr Infect Dis J 1985; 4:496-8. Prakash., Mishra OP, Singh AK, Gulati AK, Nath G. Assessment of the invested PCR when diagnosing typhoid. J Wedge Microbiol 2005; 43:431-2. Khan S., Harish BN, Menezes GA, Acharya NA, Pariah SC. Early diagnosis of typhoid veed PCR for the flagelline gene salmonella enterica serotype Typhi. Indian J Med Res 2012; 136:850-854. Atual G., Abebe T., Kebede N., Gebre-Selassie S., Michtret A., Alemayehu H. Comparative study Widal test with blood culture in the diagnosis of typhoid in feverish patients. BMC Research Notes 2014; 7:653. Pokhrel BM, Karmacharya R, Mishra SK, Koirala J. Distribution of antibodies titer against salmonella enterica among healthy people in Nepal. Ann Wedge Microbiol Antimicrobial 2009; 8:1. Krishna S, Desai S, Anjana V.K., Parantaaman W. Typhidot (IgM) as a reliable and fast diagnostic test for typhoid fever. Ann Trop Med Public Health 2011; 4:42-4. Tantivanich S, Chonsanguan M, Sangpetchson W, Taravanius S. Simple and fast diagnostic test for typhoid fever. public health in Southeast Asia J Trop Med 1984; 15:317-22. Kaur I, Talwar V, Gupta H. Latex agglutination test for rapid diagnosis of typhoid. Indian J Med Microbiol 1990; 8:78-83. Sahni H.S. Latex Agglutination Test (LAT) for diagnosis of typhoid. J Indian Med Assoc 2013; 111:395-7, 403. Jog S, Soman R, Singhal T, Rodriguez C, Mehta A, Dastur FD. Enteric fever in Mumbai clinical profile, sensitivity patterns and response to antimicrobials. JAPI 2008; 56:237-40. Butler T. Treatment of enteric fever in the 21st century: promises and shortcomings. Wedge Microbiol Infect 2011; 17:959-63. Juan DB, DuPont HL. Problematic pathogens: extra-intestinal complications of the infection of the salmonella enterica serotype Typhi. Lancet Infect Dis 2005; 5:341-8. Kapoor MR, Nair D. Cuinolno and Cephalosporin Resistance in Enteric Fever. J Glob Infect Dis 2010; 2:258-62. Senecal M. Importance of minimum inhibiting concentration values (MIC). Cme. 2010; 28:276-7. Shakur MS, Arzuman SA, Hossein J, Mehdi H, Ahmed M. Cefpodoxime proxetil compared to cefixime for the treatment of enteric fever in children. Indian Pediatr 2007; 44:838-41. Effa EE, Lassi AP, Critchley JA, Garner P, Sinclair D, Olliaro PL, et al. Fluoroguinolones for the treatment of enteromic fever and fever (enteric fever). Cochrane Cochrane Syst Rev 2011; (10):CD004530. Koirala S, Basnyat B, Arjial A. and others Gatiflocksacin against locasacin for the treatment of uncomplicated enteric fever in Nepal: open label, randomized, controlled trial. PLoS Negl Trop Dis 2013; 7:e2523. Aggarwal A, Ghosh A, Gomber S, Mitra M, Parikh AO. The effectiveness and safety of azithromycin for uncomplicated research. Indian Pediatr 2011; 48:553-6. Frank RW Jr., Mansour A., Nakhla I, et al. Short course of azithromycin for the treatment of uncomplicated enteric fever in children and adolescents. Wedge infect Dis 2004; 38:951-7. Chandey M, Multani AS. Comparative study of the efficacy and safety of azithromycin and olacocin in uncomplicated enteric fever: a randomized open study with labeling. J Wedge Diagn Ress 2012; 6:1736-9. Balasubramanian S., Rajeswari, Sayakshmi, Shivbalan S. Single against multi-custard therapy in enteric fever. Indian J Pediatr 2006; 73:103. Chowdhury DUA, If the har MH, Shahid N. Develop an ideal operational procedure in the management of enteric fever perforation. Orion Med J 2010; 33:716-7. Malik AM. Various surgical variants and ileostomy in perforation of enteric fever. World J Med Sci 2006; 1:112-6. Ansari AG, Nagvi SH, Gumro, Jamali, Talpur AA. Management of enterial fever perforation: surgical experience of 44 cases. Gomal J Med Sci 2009; 7:27-30. Handeparkar. The resurgence of chloramphenicol in enteric fever in an era of antibiotic resistance. JAPI 2010; 58 (Supple): 45-6. Harish BN, Menezes GA. Determining antimicrobial resistance in Salmonella spp. Mol Biol 2015 methods; 1225:47-61. Vala S, Shah U, Ahmad SA, Scolnik D, Glatstein M. Resistance models of enteric fever in children: longitudinal community-based research. Am J Ther 2014 Epub Ahead of Print by Ahmad K.A., Khan L.H., Roshan B, Bhutta WA. Factors associated with the recurrence of enteric fever in the era of several drug-resistant strains. J Infect Dev Ctries 2011; 5:727-31. Kundu R, Ganguly N, Ghosh TK, Evale HN, Shah RC, Shah NK. IAP Task Force Report: Diagnosis of Enteric Fever in Children. Indian pediatr 2006; 43:884-7. WHO Guidelines for The Management of Enteric Fever 2011. Available in the health department's . Directions Guidelines for General Conditions for Institutions within DME and DHS in Kerala. Available in Karande S. Multicarco-resistant typhoid: review. J Infect Dev Ctries 2011; 5:324-37. Levin MM, Lepage. Prevention of typhoid. In: Pollard AJ, Finn A., editors. Hot topics in infections and immunity in children. New York: Springer. 2005 :161-73. Sharma PC. Ramakrishnan R, Hutin Y, Manickam P, Gupte MD. risk of typhoid in Darjeeling, West Bengal, India: evidence of action. Trop Med Int Health 2009; 2009; Murugunatan A., Matai D., Sharma SC, editors. Adult Immunization 2014. 2nd Ed. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd. for the Association of Physicians of India. 2015. 220-3. BuzianT, Evirgen O, Irmak H, Carsen H, Akdeniz H. Case of typhoid with multiple complications. Eur J

Gen Med 2007; 4:83-6. Pandove PC, Mudgil A, Pandov M, Aggarwal K, Sharda D., Shard V.K. Multiple perforations and accompanying cholecystitis with gallbladder gangrene as a complication of typhoid. J Surg Case Rep 2014; 2014:rju070. Ali R, Ahmed S, Kadir M, Atik H, Hamid M. Salmonella cholecystitis: an atypical representation of a typical state. J Coll Doctors Surgut Pak 2013; 23:826-7. Srivastava D., Kumar J.A., Pankai G, Bala SD, Sevak BP. Typhoid bowel perforation in Central India Surgical experience 155 cases in under-resourced settings. Int J from Biomed and Adv Res 2014; 05:600-4.Kumar S. Management of Enteric Fever. Available in Lakhotia M, Gehlot RS, Jain P, Sharma S, Bhargava A. Neurological manifestations of enteric fever. JIACM 2003; 4:196-9. The Enteric Conclave Initiative is supported by Abbott Healthcare Private Limited (through its Truecare division) in a bid to expand the knowledge of therapy in enteric fever by bringing together primary care experts and physicians on one platform for the benefit of patients and the medical fraternity.

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