

*Typhoid fever is caused by a gram negative bacteria named as salmonella typhi whereas malaria is a protozoal disease occur due to different species of Plasmodium such as P. falciparum, P. vivax, P. ovale, and P. malariae.*

Alexander followed this advice, but the route turned to be unfavorable because of swampy terrain. He had accompanied the Greek army back from Punjab , upon request by Alexander. He was seventy-three years of age at that time. However, when Persian weather and travel fatigue weakened him, he informed Alexander that he would rather die than live disabled. He decided to take away his life by self-immolation. Although Alexander tried to desist him from doing so but upon the insistence of Calanus, Alexander relented and the job of building a pyre was entrusted to Ptolemy. At the time of the death of Calanus, Alexander, however, did not have any plan to go to Babylon. It was only after Alexander fell sick and died in Babylon, that the Greeks came to realize what Calanus intended to convey. Oldach from the University of Maryland Medical Center , Alexander also had "severe abdominal pain , causing him to cry out in agony". According to Andrew N. He became mute because of a previous injury to his neck from the Siege of Cyropolis. Other retrodiagnoses include noninfectious diseases as well. The Death of a God, Paul C. Doherty claimed that Alexander was poisoned with arsenic by his possibly illegitimate half-brother Ptolemy I Soter. The article was published in the peer-reviewed medical journal Clinical Toxicology and suggested that if Alexander was poisoned, Veratrum album offers the most plausible cause. This version was deemed as "fairly compelling" by the University of Rhode Island epidemiologist Thomas Mather, who nonetheless noted that the West Nile virus tends to kill the elders or those with weakened immune systems. Cunha from Winthrop University Hospital. Some believe that as Alexander fell ill in his final days, he suffered from progressive epidural spinal cord compression, which left him quadriplegic. Because it was believed he had been poisoned, no antidotes could revive him. Wallis Budge suggested that the body was submerged in a vat of honey, [33] while Plutarch reported treatment by Egyptian embalmers.

## Chapter 2 : Home Remedies for Typhoid Fever | Top 10 Home Remedies

*Malaria and typhoid fever are diseases which are often confused with each other. This could be primarily because both are caused by parasites and are sometimes known to exhibit similar symptoms.*

Sushma Hegde January 22, 7: The platelets are plate-shaped cells that are normally found circulating in the blood, and they are the first cells to respond to any damage in the blood vessels by binding to the site of the damage and forming blood clots. A platelets count test is used by doctors to get an insight into the health of a person suffering from conditions that affect effective clotting such as infections, bleeding disorders, and blood cancers. Recurrent nosebleeds Persistent bleeding from wounds, the gums, or the GI tract Conditions in which there is unexplained or easy bruising Women having heavy menstrual bleeding Petechiae or the presence of red spots on the skin Purpura or the presence of purple blood spots caused by bleeding under the skin Blood Platelets Counts Normal Range The normal range for platelets count is considered to be , to , per microliter of blood. When the blood platelets count is below ,, the platelet count is considered to be low, and the condition is referred to as thrombocytopenia. There is decreased blood platelet production in the body There is a massive destruction of platelets in the blood There is a destruction of platelets in the spleen or the liver When the blood platelets count is above ,, the platelet count is said to be high, and this condition is called thrombocytosis or thrombocythemia. This condition may occur due to: Primary thrombocythemia where abnormal platelets are produced by the bone marrow in large numbers. If there are no evident blood disorders in a person, the condition may be referred to as Essential Thrombocythemia. Secondary thrombocythemia is a condition which occurs when an external factor causes high platelets count. Platelets Count in Dengue Fever Clinical signs are usually enough to diagnose dengue. Persons with dengue usually present with high fever with no signs of any localizing infection, a petechial rash, and thrombocytopenia with relative leukopenia. Leukopenia is the decrease in the number of white cells in the blood. Dengue is usually suspected when the platelet counts fall below 10, platelets per microliter of blood. The thrombocytopenia in dengue is caused by the suppression of the platelet producing ability of the bone marrow, the damage of platelets by blood cells affected by the dengue virus, and the destruction of platelets by the antibodies produced by the body during a dengue infection. Blood Platelets Count in Malaria There are two types of malaria depending on the species of the parasite causing the infection, and they are Plasmodium vivax and Plasmodium falciparum. Thrombocytopenia is one of the most common complications of both types of malarial infections, and a platelets count below ,per microliter of blood is indicative of malaria. Malaria usually occurs in persons bitten by a mosquito infected with the Plasmodium parasite. The Usual Symptoms of Malaria Include: High fever with chills.

### Chapter 3 : List of Typhoid Prophylaxis Medications (4 Compared) - [blog.quintoapp.com](http://blog.quintoapp.com)

*In the investigation of fever in the tropics, two important diagnoses to be ruled out are typhoid and malaria. Both cause significant morbidity, mortality and economic loss. An estimated 17 million cases of typhoid are reported worldwide each year, resulting in million deaths.*

This could be primarily because both are caused by parasites and are sometimes known to exhibit similar symptoms. In addition, if not treated adequately in time, typhoid and malaria are often known to assume fatal proportions. Both can be responsible for several health related complications with lifetime repercussions, which can be causes of grave concern. However, according to medical experts, the chances of death are higher when you are affected by a serious malaria strain when compared to those afflicted with typhoid. Early detection is mandatory in both, though. **How to Distinguish Typhoid Fever from Malaria** The best way to distinguish between the two diseases is to categorise the correlations they have. The causes of both diseases are totally different. Whereas mosquitoes are responsible for malaria , typhoid is caused by the salmonella typhi bacteria. However, there is one common factor between the two. Salmonella typhi is known to breed in dirty water and unhealthy conditions which are prevalent in developing third world nations. Coincidentally, most of these countries lie in the tropical regions which are ideal conditions for the breeding of mosquitoes as well. The symptoms of both these diseases also do vary to a certain extent. Mostly, a malaria infection will manifest itself through chills, fevers, nausea, vomiting and sometimes even diarrhoea. However, the symptoms of typhoid may be different at various stages of the disease. The initial stages of the disease are manifested through stomach pain, skin rashes, extreme muscle weakness and fatigue along with high fever. As the illness progresses, patients may witness stomach distension and further weight loss. The third and the final stage can see complete lack of body motion. Sometimes, the patient might also enter a delirious phase. Most often, the diagnosis of malaria is considered to be far simpler than that of typhoid. A simple blood test is enough to decide whether the person is suffering from malarial infection or not. However, in order to detect the presence of salmonella typhi, doctors have to test the blood, stool, urine as well as bone marrow of the patient in question. The samples need to be stored in a controlled environment for about hours, before the presence of salmonella typhi can be detected. The cure is different too. A malaria infection will require antimalarial drugs whereas antibiotics are used to treat typhoid. Typhoid is also adequately treated by administering fluids, a high nutrition diet and sometimes even through intravenous nutrition. These are some of the basic differences between these two killer diseases. However, should you be experiencing similar or near similar symptoms, seek medical assistance immediately. Read more articles on Malaria.

**Chapter 4 : Death of Alexander the Great - Wikipedia**

*Typhoid fever can be difficult to diagnose clinically because typical signs and symptoms are similar to several other acute febrile illnesses, including dengue. Physicians must have a high index of suspicion.*

This is an open access article distributed under the Creative Commons Attribution License , which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. Malaria and typhoid fever are major public health problems in tropical and subtropical countries. People in endemic areas are at risk of contracting both infections concurrently. The study was aimed at determining the prevalence and associated risk factors of malaria, typhoid, and their coinfection among febrile patients. Blood samples were collected for blood culture, Widal test, and blood film preparation. Data were analyzed using SPSS version 20 statistical software. The prevalence of malaria was Among these 32 Malaria typhoid fever coinfection was 13 6. The prevalence of malaria and typhoid fever was found high. Further studies should be done on the other determinants of malaria and typhoid fever coinfection in different seasons and different study areas.

**Introduction** Malaria is one of the febrile illnesses and the most common fatal disease in the world caused by one or more species of plasmodium. These are Plasmodium falciparum, Plasmodium vivax, Plasmodium ovale, Plasmodium malariae, and Plasmodium knowlesi. Approximately half of the world population is at risk of malaria. Most of malaria cases and deaths occur in sub-Saharan Africa. According to the World malaria report , there were about million cases of malaria and an estimated , deaths in [ 1 ]. Plasmodium falciparum is a predominant species in endemic areas and causes complicated disease and death in the country [ 2 ]. Typhoid fever enteric fever is a systemic prolonged febrile illness caused by certain Salmonella serotypes. Salmonella enterica serotype typhi S. The estimated total number of world typhoid fever episode in was Poor disposal of human excreta, poorly equipped latrine with water facility, poor hand washing habit, and untreated water usage are the main cause of transmission of typhoid fever in developing countries [ 4 , 5 ]. Malaria and typhoid fever are a major public health problem in tropical and subtropical countries caused by very different organisms, protozoa and Gram negative bacilli, respectively, and transmitted via different mechanisms [ 5 â€” 8 ]. People in endemic areas are at a risk of contracting both infections concurrently [ 9 , 10 ]. There is a considerable overlap of signs and symptoms of malaria and typhoid fever [ 2 , 11 â€” 14 ]. Thus the similarity of clinical features of both diseases leads to misdiagnosis and mistreatment of the febrile patients [ 11 , 15 ]. So, reliable diagnostic method is important for effective management of cases to reduce misuse and wastage of drugs [ 11 , 14 â€” 16 ]. So far, the prevalence of malaria, typhoid fever, their coinfection, and associated risk factors were not well studied in Ethiopia. This study was conducted to determine the prevalence of malaria, typhoid fever, and their coinfection among febrile patients. The altitude of the district ranges between 1, and 2, m above sea level. It has a population of more than , and the majority of its population depends on subsistence agriculture. The district is malarious mainly P. It is 27 km away from ancient city Gondar. Patients with underlying diseases were excluded from the study.

**Specimen Collection and Processing** Data on the sociodemographic and clinical characteristics of the study participants were collected using a pretested structured questionnaire by interview. After interview, 10 mL blood sample was collected from adult patients by experienced laboratory technologist. Similarly, mL blood was collected from children and 1. Both thick and thin blood films were prepared for malaria diagnosis and slide agglutination test was done for typhoid fever screening using somatic O and flagellar H antigens kits of S. Antibody titration was performed for slide reactive samples. The blood smear was read at the health center by laboratory technicians and the result was reported. All blood films were reread by experienced microscopist at the University of Gondar Hospital laboratory who was blinded to initial results. Discrepancies occurred in the result by the two readers were solved by using the third experienced microscopist.

**Statistical Analysis** The data was cleaned, edited, checked for completeness, entered to Epi Info version 3. Chi-square and odds ratio OR by logistic regression were calculated to determine associated factors.

**Ethical Consideration** Ethical clearance was obtained from University of Gondar, School of Biomedical and Laboratory Sciences research and ethical committee. Written informed consent was obtained from each of the volunteer study

subjects or guardian of children. Positive results were given for nurses working in the health center for treatment according to the national treatment guideline. The mean age was Malaria was the most prevalent disease in the study area. From the total febrile patients 73 Of them, 32 The positivity rates of P. Prevalence of Typhoid Fever. Of the total study subjects, 38 Different gram negative organisms were grown on the blood culture but there was only one growth of S. The frequency distribution of titration result among slide agglutination test result in febrile patients at Ayinba Health Center, Northwest Ethiopia, April to May Prevalence of Malaria and Typhoid Fever Coinfection The titration result showed that the prevalence of coinfection was 13.6. Of them 8 The prevalence of coinfection using blood culture was 10. The chi square analyses showed that this age group was significantly associated with malaria. There was no significant association of malaria and typhoid fever with sex, residence, occupation, and educational background Table 3. Clinical features were not significantly associated with malaria and typhoid fever Table 4. Prevalence of malaria and typhoid fever and their coinfection in relation to sociodemographic characteristics among febrile patients at Ayinba Health Center, Northwest Ethiopia, from April to May, Prevalence of malaria and typhoid fever infection in relation to clinical features in febrile patients at Ayinba Health Center, Northwest Ethiopia, from April to May By using logistic regression analysis, bed net usage, impregnation of the bed net with chemicals, and history of travel to malaria endemic areas were not significantly associated risk factors of malaria Table 5. Discussion The result of this study is comparable with the reports from Akoko State, Nigeria, But it is less than the reports from Sierra Leone The discrepancy of the results between the studies might be due to seasonal variation and difference in geographical locations. But according to the Federal Ministry of Health report the relative frequency of P. There is a great difference in frequencies of two plasmodium species. The difference in the frequencies of the two species might be the result of the prevention and control measures employed in the study area that have higher impact on P. In case of P. In this study the prevalence of malaria was higher in males While other studies showed in Sierra Leone, females This might be due to the fact that males are sleeping outside their house for agricultural purpose and have greater chance to travel to malaria endemic area for crop cultivation or daily labor. In this study there was significant association between age and malaria. This might be due to low immune response against malaria infection, inappropriate use of bed nets, and in appropriate use of antimalarial drugs in case of children. The prevalence of the typhoid fever using Widal titration test was comparable with the study in Ebonyi, This might be due to the differences in Widal test kits, year of study, season, difference in cultural practices, and toilet facility. In addition, the antibody titer levels found in a healthy population may vary from time to time and in different areas, so it is difficult to establish a cut-off level of baseline antibody in a defined area and community [ 11 ]. The frequency of typhoid fever was greater in females Females may acquire infection during food preparation, child care, and other household activities, thus increasing the frequency of typhoid fever. In this study, the result of malaria and typhoid coinfection using Widal test is comparable with the reports of Ebonyi State 5. The result of the coinfection using blood culture was 0. Even though blood culture is a gold standard test for typhoid fever diagnosis, it can be affected by duration of infection, intake of antibiotics [ 11 ], and laboratory setup. Because of the high prevalence of typhoid fever and malaria in the tropics, coinfections are common [ 9 ]. The high rate of typhoid and malaria coinfection using Widal test may be responsible for the frequent treatment of mixed infections. However, blood culture results showed that this rate of coinfection is only 0. Hence, typhoid fever could cross-react with malaria using Widal test [ 6 , 11 ] and lead to overdiagnosis of typhoid fever. Thus, overdiagnosis of typhoid fever leads to unnecessary exposure of patients to the side effects of antibiotics. In addition, misdiagnosis may result in delayed diagnosis and treatment of malaria and other acute febrile illnesses. This emphasized the importance of a reliable diagnostic test for typhoid fever. Conclusions Malaria was the most prevalent disease among febrile patients in the study area. There was a substantial result discrepancy among Widal test and blood culture for the diagnosis of typhoid fever. Poor hand washing habit was significantly associated with typhoid fever. Further studies should be done on the other potential risk factors of malaria and typhoid fever coinfection in different seasons and different study areas. The community should be encouraged to use latrine to reduce the burden of high prevalence of typhoid fever infection in the area. The continued development of better diagnostic tools for both malaria and typhoid fever is still crucial.

Conflict of Interests The authors declare that there is no conflict of interests regarding the publication of this paper. Belay Tessema conceived the study, supervised the collection of data, and revised the draft paper.

**Chapter 5 : Blood Platelets Count in Dengue Fever, Malaria, Chikungunya, Typhoid**

*Approximately 85% of typhoid fever and 90% of paratyphoid fever cases in the United States are among international travelers; of those, 75% of typhoid and 90% of paratyphoid fever cases are caused by serotype Paratyphi A acquired by travelers to southern Asia (such as India, Pakistan, or Bangladesh).*

Do consult your doctor for proper diagnosis and treatment of this condition. Use home remedies just as an adjunct treatment. Typhoid fever, also known as typhoid, is a bacterial infection of the intestinal tract and bloodstream. It is most commonly caused due to the Salmonella typhi S. Once the bacteria enters the body through contaminated food, drinks or water, they multiply and spread from the intestines into the bloodstream. The bacteria travel through the blood to your lymph nodes, liver, spleen, gallbladder and other parts of the body. Typhoid fever is common in less-industrialized countries, mainly due to problems with unsafe drinking water, inadequate sewage disposal and flooding. According to the Centers for Disease Control and Prevention, almost

**Advertisements** Early symptoms of typhoid are fever, weakness, headache and abdominal pain. As the disease gets worse, one can also have symptoms like severe diarrhea, vomiting, constipation, loss of appetite, skin rashes, blood in the stools, chills, delirium, hallucinations, fluctuating mood, enlarged liver, nosebleeds and lethargy. Symptoms usually improve in 2 to 4 weeks with proper treatment. Once diagnosed with typhoid, doctors prescribe antibiotics to kill the bacteria. It is very important to complete the full course of antibiotics to prevent recurrence of the infection. In addition, use of clean water along with good hygiene and sanitation are important to prevent spreading the illness to others. There are also vaccines that can protect you from contracting typhoid. Some home remedies can also provide relief from typhoid symptoms and promote quick recovery.

**Advertisements** Here are the top 10 home remedies for typhoid fever. Soak a washcloth in cool tap water, wring out the excess water and place it on your forehead. Change the washcloth frequently. Follow this treatment until your temperature drops. You can also use a cold damp washcloth to sponge areas like your armpits, feet, hands and groin to reduce body temperature. Do this at regular intervals to control a high fever. Do not use very cold or ice water as it can worsen the condition.

**Increase Fluid Intake** Due to high fever and diarrhea, you may become dehydrated. To prevent this, increase your fluid intake. It will keep your body hydrated and encourage elimination of waste material and toxins. Drink about 8 to 10 glasses of bottled or purified water daily. To be on the safe side, boil your drinking water if using tap water. Along with water, increase your consumption of coconut water, herbal teas, fresh fruit juices, soups and glucose water.

**Homemade ORS** Fluid replacement or fluid resuscitation is essential to replenish fluid lost through diarrhea and prevent dehydration. You can do this with oral rehydration solution ORS. ORS will reduce the intensity of typhoid symptoms and aid recovery. You can also make ORS at home. Drink this homemade ORS several times a day until you recover completely.

**Apple Cider Vinegar** Apple cider vinegar is energizing and a good remedy for typhoid fever. Its acidic property helps draw heat out of the skin, which in turn reduces high body temperature. Drink it before eating your meals. Follow this remedy for 5 to 7 days. You can also prepare a mixture of one part apple cider vinegar and two parts cool water. Soak a washcloth in it, wring out the excess water and place it on your forehead and abdomen. Change the washcloth once it becomes warm. Repeat as needed until your fever has dropped.

**Garlic** The antimicrobial properties of garlic help fight off bacteria that cause typhoid fever. Moreover, it helps eliminate harmful toxins from the body and speed up recovery.

**Advertisements** Eat 2 garlic cloves on an empty stomach for a couple of weeks to help get rid of typhoid fever symptoms. Drink it 3 times a day. Garlic is not recommended for pregnant women and small children.

**Basil** Basil is another effective treatment for typhoid fever. This herb has antibiotic and antibacterial properties that can help get rid of the bacteria that cause typhoid fever. Moreover, it helps bring down a fever, calm the stomach and boost your immune system. Add 20 basil leaves and 1 teaspoon of crushed ginger to 1 cup of water. Boil it until the solution reduces by half. Add a little honey and drink this tea 2 or 3 times a day for a few days. You can also extract the juice from 5 to 7 basil leaves. Add a pinch of freshly ground black pepper to the juice and eat it 2 or 3 times a day for a couple of weeks.

**Cloves** Cloves are also helpful for treating typhoid fever. The essential oils in cloves have antibacterial properties, thus cloves can kill the bacteria that

cause typhoid. Cloves also help ease vomiting and diarrhea, two common symptoms of typhoid. Add 5 to 7 clove buds to 8 cups of water. Boil this solution until it reduces by half. Remove from heat, cover and allow it to cool. Strain and then drink this concoction throughout the day. Follow this herbal treatment for at least 1 week.

**Bananas** Bananas can bring down the fever and treat diarrhea in people enduring typhoid. The pectin present in bananas is a soluble fiber that helps absorb liquid in the intestines, thus reducing diarrhea. Moreover, the potassium in bananas helps replace electrolytes lost during fever and diarrhea. Eat 2 to 3 ripe bananas daily until your typhoid symptoms subside. Eat this 2 or 3 times daily for a few weeks.

**Buttermilk** Drinking buttermilk is another excellent herbal treatment for typhoid fever. It is easy on the stomach and aids recovery. It will also prevent dehydration. Drink a few glasses of buttermilk daily until you recover completely. You can also add 2 teaspoons of freshly extracted juice of coriander leaves to 1 cup of buttermilk. Drink this 2 times daily for 1 to 2 weeks. To help bring down the fever, add the pulp of 1 banana to a glass of buttermilk. Drink this 2 times daily.

**Eat High-Nutrition Foods** When you become weak from typhoid, it is important to follow a special diet to provide your body proper nutrition. Eat foods high in protein like eggs and milk to help your body recover. Due to fever and sweating, you may have low levels of electrolytes like potassium and sodium. Drink fruit juices, soups and broths to compensate for the mineral loss.

**Additional Tips** Add the juice of 1 lemon and a little honey to a glass of warm water and drink it 2 or 3 times a day. Simply drinking a glass of warm water mixed with honey will also soothe the digestive tract. Drink fresh orange juice to keep your body hydrated and cool. Avoid eating meats and sugary items for a few days. Eat simple foods like porridge, legumes with rice, grilled fish and boiled or raw vegetables. Include green vegetable smoothies and soups in your diet. Do not eat unhygienic, street food and always opt for home cooked food. Avoid eating raw fruits and vegetables that you cannot peel. Wash your hands properly before cooking a meal or eating food. Always drink boiled or bottled water. Maintain good hygiene and sanitation to prevent the spread of typhoid. Avoid stimulants like alcohol, caffeinated beverages, tea, carbonated drinks and spicy foods. Avoid milk and dairy products if you have diarrhea. Eat foods that are high in fiber if you suffer from constipation. Bed rest is very important because the disease causes a lot of weakness.

*Typhoid fever, also known as enteric fever, is a potentially life-threatening illness caused primarily by Salmonella enterica. Antibiotics used are dependant on region and severity South Asia/ East Asia.*

Received Jul 3; Accepted Sep This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. This article has been cited by other articles in PMC. Malaria and typhoid fever are major public health problems in tropical and subtropical countries. People in endemic areas are at risk of contracting both infections concurrently. The study was aimed at determining the prevalence and associated risk factors of malaria, typhoid, and their coinfection among febrile patients. Blood samples were collected for blood culture, Widal test, and blood film preparation. Data were analyzed using SPSS version 20 statistical software. The prevalence of malaria was Among these 32 Malaria typhoid fever coinfection was 13 6. The prevalence of malaria and typhoid fever was found high. Further studies should be done on the other determinants of malaria and typhoid fever coinfection in different seasons and different study areas.

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informed consent was obtained from each of the volunteer study subjects or guardian of children. Positive results were given for nurses working in the health center for treatment according to the national treatment guideline. The mean age was

*Summary - Malaria vs Typhoid. Malaria is an infectious disease caused by protozoa that are transmitted by the anopheline mosquitos whereas enteric fever is an acute systemic illness characterized by fever, headache, and abdominal pain.*

**Diagnosis** Medical and travel history Your doctor is likely to suspect typhoid fever based on your symptoms and your medical and travel history. But the diagnosis is usually confirmed by identifying *Salmonella typhi* in a culture of your blood or other body fluid or tissue. **Body fluid or tissue culture** For the culture, a small sample of your blood, stool, urine or bone marrow is placed on a special medium that encourages the growth of bacteria. The culture is checked under a microscope for the presence of typhoid bacteria. A bone marrow culture often is the most sensitive test for *Salmonella typhi*. Although performing a culture test is the mainstay for diagnosis, in some instances other testing may be used to confirm a suspected typhoid fever infection, such as a test to detect antibodies to typhoid bacteria in your blood or a test that checks for typhoid DNA in your blood. **Treatment** Antibiotic therapy is the only effective treatment for typhoid fever. Commonly prescribed antibiotics Commonly prescribed antibiotics include: In the United States, doctors often prescribe this for nonpregnant adults. Another similar drug called ofloxacin also may be used. Unfortunately, many *Salmonella typhi* bacteria are no longer susceptible to antibiotics of this type, particularly strains acquired in Southeast Asia. This may be used if a person is unable to take ciprofloxacin or the bacteria is resistant to ciprofloxacin. This injectable antibiotic is an alternative in more-complicated or serious infections and for people who may not be candidates for ciprofloxacin, such as children. These drugs can cause side effects, and long-term use can lead to the development of antibiotic-resistant strains of bacteria. **Problems with antibiotic resistance** In the past, the drug of choice was chloramphenicol. Doctors no longer commonly use it, however, because of side effects, a high rate of health deterioration after a period of improvement relapse and widespread bacterial resistance. In fact, the existence of antibiotic-resistant bacteria is a growing problem in the treatment of typhoid fever, especially in the developing world. In recent years, *Salmonella typhi* has also proved resistant to trimethoprim-sulfamethoxazole, ampicillin and ciprofloxacin. **Other treatments** Other treatments include: This helps prevent the dehydration that results from a prolonged fever and diarrhea. If your symptoms are severe, go to an emergency room or call or your local emergency number. **Information to gather in advance** **Pre-appointment restrictions.** At the time you make your appointment, ask if there are restrictions you need to follow in the time leading up to your visit. Your doctor will not be able to confirm typhoid fever without a blood test, and may recommend taking steps to reduce the risk of passing a possible contagious illness to others. **Recent exposure to possible sources of infection.** Be prepared to describe international trips in detail, including the countries you visited and the dates you traveled. Your doctor will also need to know your vaccination history. **Questions to ask your doctor.** Write down your questions in advance so that you can make the most of your time with your doctor. For typhoid fever, possible questions to ask your doctor include: What are the possible causes for my symptoms? What kinds of tests do I need? Are treatments available to help me recover? I have other health problems. How can I best manage these conditions together? How long do you expect a full recovery will take? When can I return to work or school? Am I at risk of any long-term complications from typhoid fever? **What to expect from your doctor** Your doctor is likely to ask you a number of questions. Being ready to answer them may reserve time to go over any points you want to talk about in-depth. Your doctor may ask: What are your symptoms and when did they begin? Have your symptoms gotten better or worse? Did your symptoms briefly get better and then come back? Have you recently traveled abroad? Did you update your vaccinations before traveling? Are you being treated for any other medical conditions? Are you currently taking any medications?

**Chapter 8 : Malaria and Typhoid**

*Malaria typhoid fever coinfection was 13 (%). year-old children and poor hand washing habit were significantly associated with malaria and typhoid infection, respectively (). Conclusions. The prevalence of malaria and typhoid fever was found high.*

Typhi is human-restricted, these chronic carriers become the crucial reservoir, which can persist for decades for further spread of the disease, further complicating the identification and treatment of the disease. These areas have a lack of access to clean water, proper sanitation systems, and proper health care facilities. For these areas, such access to basic public health needs is not in the near future. She was forcibly quarantined as a carrier of typhoid fever in for three years and then again from until her death in In BC, a plague , which some believe to have been typhoid fever, killed one-third of the population of Athens , including their leader Pericles. Following this disaster, the balance of power shifted from Athens to Sparta , ending the Golden Age of Pericles that had marked Athenian dominance in the Greek ancient world. The ancient historian Thucydides also contracted the disease, but he survived to write about the plague. His writings are the primary source on this outbreak, and modern academics and medical scientists consider typhoid fever the most likely cause. In , a study detected DNA sequences similar to those of the bacterium responsible for typhoid fever in dental pulp extracted from a burial pit dated to the time of the outbreak. A pair of epidemics struck the Mexican highlands in and , causing an estimated 7 to 17 million deaths. Typhoid fever killed more than settlers in the New World between and This disease may also have been a contributing factor in the death of 12th US President Zachary Taylor due to the unsanitary conditions in Washington, D. The worst year was , when the typhoid death rate was per , people. Major Walter Reed , Edward O. Shakespeare, and Victor C. Vaughan were appointed August 18, , with Reed being designated the President of the Board. The Typhoid Board determined that during the war, more soldiers died from this disease than from yellow fever or from battle wounds. The Board promoted sanitary measures including latrine policy, disinfection, camp relocation, and water sterilization, but by far the most successful antityphoid method was vaccination, which became compulsory in June for all federal troops. The most notorious carrier of typhoid fever, but by no means the most destructive, was Mary Mallon , also known as Typhoid Mary. In , she became the first carrier in the United States to be identified and traced. She was a cook in New York who was closely associated with 53 cases and three deaths. Mary quit her job, but returned later under a false name. She was detained and quarantined after another typhoid outbreak. She died of pneumonia after 26 years in quarantine. Development of vaccination[ edit ] During the course of treatment of a typhoid outbreak in a local village in , English country doctor William Budd realised the "poisons" involved in infectious diseases multiplied in the intestines of the sick, were present in their excretions, and could be transmitted to the healthy through their consumption of contaminated water. Almroth Edward Wright developed the first effective typhoid vaccine. In , Karl Joseph Eberth described a bacillus that he suspected was the cause of typhoid. Today, the bacillus that causes typhoid fever goes by the scientific name Salmonella enterica enterica , serovar Typhi. Citing the example of the Second Boer War , during which many soldiers died from easily preventable diseases, Wright convinced the British Army that 10 million vaccine doses should be produced for the troops being sent to the Western Front , thereby saving up to half a million lives during World War I. For the first time, their casualties due to combat exceeded those from disease. Russell , a U. It eliminated typhoid as a significant cause of morbidity and mortality in the U. Most developed countries saw declining rates of typhoid fever throughout the first half of the 20th century due to vaccinations and advances in public sanitation and hygiene. In , the chlorination of public drinking water was a significant step in the US in the control of typhoid fever. The first permanent disinfection of drinking water in the U. Credit for the decision to build the chlorination system has been given to John L. Today, the incidence of typhoid fever in developed countries is around five cases per million people per year. A notable outbreak occurred in Aberdeen , Scotland , in In 2005 an outbreak in the Democratic Republic of Congo resulted in more than 42, cases and deaths. Deaths from typhoid fever William Henry Harrison , the 9th President of the United States of America , died 32 days into his term, in This is the shortest term served by a United States President.

Gerard Manley Hopkins , English poet, died of typhoid fever in

**Chapter 9 : Typhoid Vaccination for International Travel | Passport Health**

*Typhoid fever, also known simply as typhoid, is a 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.*

Typhoid and paratyphoid fever are most often acquired through consumption of water or food that has been contaminated by feces of an acutely infected or convalescent person or a chronic, asymptomatic carrier. Transmission through sexual contact, especially among men who have sex with men, has been documented rarely. In the United States, approximately culture-confirmed cases of typhoid fever and 80 cases of paratyphoid fever caused by *S. Typhi*. Cases of paratyphoid fever caused by serotypes Paratyphi B tartrate negative and Paratyphi C are rarely reported. Other high-risk regions for typhoid and paratyphoid fever include Africa and Southeast Asia; lower-risk regions include East Asia, South America, and the Caribbean. Headache, malaise, and anorexia are nearly universal, and abdominal pain, diarrhea, or constipation are common. Hepatosplenomegaly can often be detected. A transient, macular rash of rose-colored spots can occasionally be seen on the trunk. Fever is commonly lowest in the morning, reaching a peak in late afternoon or evening. This clinical presentation is often confused with malaria, and typhoid fever should be suspected in a person with a history of travel to an endemic area who is not responding to antimalarial medication. Untreated, the disease can last for a month. The serious complications of typhoid fever generally occur after 2–3 weeks of illness and may include life-threatening intestinal hemorrhage or perforation. Multiple cultures increase the sensitivity and may be required to make the diagnosis. Stool culture is not usually positive during the first week of illness, so blood culture is preferred. Urine culture has no higher diagnostic yield than stool culture for acute cases. The Widal test is unreliable but is widely used in developing countries because of its low cost. It is a serologic assay that may react in patients with typhoid or paratyphoid fever, but is not specific and false positives may occur. Serologic assays are not an adequate substitute for blood, stool, or bone marrow culture. Because there is no definitive serologic test for typhoid or paratyphoid fever, the initial diagnosis often has to be made clinically. The combination of a history of risk for infection and a gradual onset of fever that increases in severity over several days should raise suspicion of typhoid or paratyphoid fever. Typhoid fever is a nationally notifiable disease. Injectable third-generation cephalosporins are often the empiric drug of choice when the possibility of fluoroquinolone resistance is high. Azithromycin and ceftriaxone are increasingly used to treat typhoid fever or paratyphoid fever because of the emergence of multidrug-resistant strains, although increasing resistance to azithromycin in *Typhi* strains has been documented outside the United States. Additional data on antimicrobial resistance among enteric fever cases in the United States can be found at [www.cdc.gov](http://www.cdc.gov). Patients treated with an antibiotic may continue to have fever for 3–5 days, although the height of the fever generally decreases each day. Patients may actually feel worse during the several days it takes for the fever to end. If fever in a person with culture-confirmed typhoid or paratyphoid fever does not subside within 5 days, alternative antimicrobial agents or other foci of infection such as abscesses, bone or joint infections, and other extraintestinal sites should be considered. For paratyphoid fever, food and water precautions are the only prevention method, as no vaccines are available. Two typhoid vaccines are available in the United States: Available typhoid vaccines offer no protection against paratyphoid fever. The time required for primary vaccination differs for the 2 vaccines, as do the lower age limits. Primary vaccination with ViCPS consists of one 0.5 mL dose. A booster dose is recommended every 2 years for people who remain at risk. Primary vaccination with oral Ty21a vaccine consists of 4 capsules, 1 taken every other day. The capsules should be kept refrigerated not frozen, and all 4 doses must be taken to achieve maximum efficacy. Each capsule should be taken with cool liquid no warmer than 100°F. What to do when a dose of the oral vaccine is missed or taken late is unclear. Some suggest that minor deviations in the dosing schedule, such as taking a dose one day late, may not have a large effect on how well the vaccine works. However, we are unaware of any studies showing the effect of such deviations; thus, if 4 doses are not completed as directed, optimal immune response may not be achieved. A booster dose is recommended every 5 years for people who remain at risk. Adverse reactions should be reported to the Vaccine Adverse Event Reporting System by visiting <https://vaers.hhs.gov>: However, the benefits of

vaccinating pregnant women may outweigh potential risks when the likelihood of typhoid exposure is high; the inactivated vaccine ViCPS may be considered in these situations. Live attenuated Ty21a vaccine should not be given to pregnant women or immunocompromised travelers, including those infected with HIV. The intramuscular vaccine presents a theoretically safer alternative for immunocompromised travelers. The Advisory Committee on Immunization Practices does not recommend against vaccinating household contacts of immunocompromised people with Ty21a; although vaccine organisms can be shed transiently in the stool of vaccine recipients, secondary transmission of vaccine organisms has not been documented. The only contraindication to vaccination with ViCPS vaccine is a history of severe local or systemic reactions after a previous dose. Neither vaccine should be given to people with an acute febrile illness. Theoretical concerns have been raised about the immunogenicity of live, attenuated Ty21a vaccine in people concurrently receiving antimicrobial agents including antimalarial chemoprophylaxis, viral vaccines, or immune globulin. Available data do not suggest that simultaneous administration of oral polio or yellow fever vaccine decreases the immunogenicity of Ty21a. If typhoid vaccination is warranted, it should not be delayed because of administration of viral vaccines. Simultaneous administration of Ty21a and immune globulin does not appear to pose a problem.