


I'm not robot  reCAPTCHA

Continue

Not to be confused with Typhus. Bacterial infection due to a specific type of salmonella Typhoid fever/Other names:Slow fever, abdominal typhus spots on a person's chest with typhoid typhoid special diseasesSymptoms:Fever, abdominal pain, headache, rashNormal beginning:6-30 days after exposure 12 Causes:Salmonella enterica subsp. enterica (distributed by food or water contaminated with faeces) , DNA detection. Hand washing (2015) is a bacterial infection caused by a specific type of salmonella that causes symptoms. Symptoms can range from mild to severe, and usually begin 6-30 days after exposure. It is often the gradual onset of high temperature for several days. This is usually accompanied by weakness, abdominal pain, constipation, headaches and mild vomiting. Some people develop skin rashes with pink spots. In severe cases, people may experience confusion. Without treatment, the symptoms can last for weeks or months. Diarrhea is unusual. Other people may carry the bacterium without being affected, but they are still able to spread the disease to others. Typhoid fever is a type of enteric fever, along with paratyphoid fever. The cause is the salmonella enterica subsp. enterica serovar Typhi, growing in the intestines and blood. The tif is spread by eating, drinking food or water contaminated with the faeces of an infected person. Risk factors include poor sanitation and poor hygiene. Those who travel in developing countries are also at risk. Only people can be infected.

Symptoms are similar to those of many other infectious diseases. The diagnosis is made by either cultivating bacteria or detecting their DNA in the blood, stool or bone marrow. The cultivation of the bacterium can be difficult. The most accurate is bone marrow testing. The typhoid vaccine can prevent 40 to 90% of cases within the first two years. The vaccine can have some effect for up to seven years. Vaccination is recommended for people at high risk or people traveling to areas where the disease is common. Other prevention efforts include clean drinking water, good sanitation and hand washing. Until a person's infection is confirmed as cleansed, a person should not prepare food for others. The disease is treated with antibiotics such as azithromycin, fluoroquinolones or third-generation cephalosporins. Resistance to these antibiotics is developing, making it difficult to treat the disease. In 2015, 12.5 million new cases worldwide The disease is most common in India. Children are the most affected. In the 1940s, disease rates decreased in developed countries as a result of improved sanitation and the use of antibiotics to treat the disease. Each year in the United States, about 400 cases and the disease occurs in approximately 6,000 people. In 2015, some 149,000 people died worldwide, up from 181,000 in 1990 (about 0.3% of the world). The risk of death is up to 20% without treatment. In treatment, it is from 1 to 4%. Typhoid is a different disease. However, the name typhoid fever means resembling typhus because of the similarity of symptoms. Playing Media Video Summary (scenario) Signs and symptoms of Rose spots on a person's chest with typhoid fever Classically, the progression of untreated typhoid is divided into four different stages, each lasting about a week. During these stages, the patient becomes emaciated and emaciated. In the first week, the body temperature rises slowly, and temperature fluctuations are visible in the relative bradycardia (Faget sign), malaise, headache and cough. Bloody nose (epistaxis) is observed in a quarter of cases, and abdominal pain is also possible. The decrease in the number of circulating white blood cells (leukopenia) occurs in eosinopenia and relative lymphocytosis; Blood cultures are positive for salmonella enterica subsp. enterica serovar Typhi. The Widal test is usually negative in the first week. In the second week a person is often too tired to stand up, with a high temperature on a plateau of about 40 degrees Celsius (104 degrees Fahrenheit) and bradycardia (sphingomythermic dissociation or sign of Faget), classically with a dirotic wave of pulse. Delirium can occur when the patient is often calm but sometimes becomes agitated. This nonsense led to typhoid fever, nicknamed nervous fever. Pink spots appear on the lower chest and abdomen in about a third of patients. At the base of the lungs can be heard ronchi (shattering breathing sounds). The abdomen is stretched and painfully in the lower right quadrant, where a rumbling can be heard. Diarrhea can occur at this stage, but constipation is also common. The spleen and liver are enlarged (hepatosplenomegaly) and tender, while the liver transaminase is elevated. The Widal test is strongly positive, with antiO and antiH antibodies. Blood cultures are sometimes still positive at this stage. In the third week of typhoid may experience a number of complications: intestinal bleeding due to bleeding in Peyer's congested patches occurs; it can be very serious, but usually not fatal. Intestinal perforation in the distal ile is a very serious complication and often fatal. This can occur without alarming symptoms until septicaemia or diffuse peritonitis sets in inches of encephalitis diseases such as and acute bronchitis Neuropsychiatric symptoms (described as muttering delirium or coma vigil), with collection in bed linen or imaginary objects Metastatic abscesses, cholecystitis, endocarditis, and osteomyelitis fever is still very high and fluctuates very little within 24 hours. Dehydration occurs, and the patient is delirious (typhoid state). A third of the affected people develop a macular rash on the torso. Low platelet count (thrombocytopenia) can sometimes be seen. It evokes a 1939 conceptual illustration showing the various ways that typhoid bacteria can contaminate water well (center) the Gram-negative bacterium that causes typhoid fever is a Salmonella enterica subsp. enterica serovar Typhi. Based on the MLST subtyping scheme, the two main types of S. Typhi sequences are ST1 and ST2, which are now widespread worldwide. Global phylogenetic analysis has shown the dominance of haplogype 58 (H58), which probably originated in India in the late 1980s and is now spreading worldwide with multidrug resistance. A recently proposed and more detailed genotyping scheme was registered in 2016 and has been widely used since then. This scheme reclassified the H58 nomenclature to the genotype 4.3.1. Transmission unlike other strains of salmonella, non-animal carriers of typhoid are known. Humans are the only known carriers of bacteria. S. enterica subsp. Enterica serovar Typhi is spread along the fecal-oral route from currently infected people and from asymptomatic carriers of bacteria. The asymptomatic human carrier is a person who still excretes typhoid fever into his stool a year after the acute stage of infection. Diagnosis is made by any culture of blood, bone marrow or stool, as well as by the Widal test (demonstration of antibodies against salmonella antigens O-somatic and H-flagellar). In epidemics and less affluent countries, after excluding malaria, dysentery or pneumonia, differential testing time with chloramphenicol is usually conducted pending the results of the Widal test and blood and stool cultures. Widal test Widal test Cold Widal test is used to identify specific antibodies in the serum of people with typhoid fever using antigen-antibody interactions. In this test, the serum is mixed with a dead bacterial suspension of salmonella, it has specific antigens. If the patient's serum carries antibodies against these antigens, then they attach to them the formation of a slip that indicated the positivity of the test. If there is no sticking, the test is negative. The Widal test is over-laborious and subject to significant false-up results. The test can also be falsey negative at the start of the disease. However, unlike the Typhidot test, the Widal test quantifies with credits. Rapid diagnosis Rapid diagnostic tests such as Tubex, Typhidot and Test-it have shown moderate diagnostic accuracy. The Typhidot test is based on the presence of specific IgM and IgG antibodies to a specific OMP 50kD antigen. This test is conducted on the cellulose nitrate membrane, where the specific protein of the outer membrane S. typhi is attached as fixed test lines. IgM and IgG antibodies are identified separately. IgM shows a recent infection, while IgG means a remote infection. The sample pad of this kit contains colloidal gold-anti-human IgG or gold-anti-human IgM. If the sample contains IgG and IgM antibodies against these antigens, then they will react and get turned red. This complex will continue to move forward and IgG and IgM antibodies will be attached to the first test line where IgG and IgM antigens are present giving a pink-purple color strip. This complex will continue to move on and reach the control line, which consists of rabbit anti-mouse antibodies that binds the mouse anti-human IgG or IgM antibodies. The main purpose of the control line is to indicate the correct migration and color of the reagents. The typhidot test becomes positive within 2-3 days after infection. Two colored stripes indicate a positive test. The one-band of the control line indicates a negative test. One-band of the first fixed line or does not indicate invalid tests at all. The most important limitation of this test is that it is not quantitative and the result is only positive or negative. The Tubex Tubex test contains two types of brown magnetic particle particles coated with antigenic and blue indicator particles coated with O9 antibodies. During the test, if antibodies are present in the serum, they will attach to brown magnetic particles and settle at the base, and the particles of the blue indicator remain in the solution, giving a blue color indicating the positivity of the test. If the serum does not have antibodies in it, then the blue particle attaches to the brown particles and settled on the bottom without giving the color of the solution, which means that the test is negative and they have no typhoid. Physician-prevention, administration of typhoid vaccination at a school in San Augustine County, Texas, 1943 sanitation and hygiene are essential to prevent typhoid fever. It can only be spread when human faeces can come into contact with food or drinking water. Careful cooking and hand washing are crucial to prevent typhoid. Industrialization, and in particular the invention of the car, greatly contributed to the elimination of typhoid, as it eliminated the health hazards associated with the presence of horse manure on public streets, which led to the number of flies that are known as vectors of many pathogens, including Salmonella spp. Spp. Control and prevention of drinking water chlorination have led to a sharp decline in typhoid transmission in the United States. Vaccination Two abdominal vaccines are licensed for use for the prevention of typhoid fever: the live oral vaccine Ty21a (sold as Viviofr cruceil Switzerland AG) and the injectable vaccine from typhoid polysaccharide (sold as Typhim Vi by Sanofi Pasteur and Typherix by GlaxoSmithKline). Both are effective and recommended for travelers in areas where typhoid fever is endemic. Boosters are recommended every five years for an oral vaccine and every two years for an injectable form. The old, killed wholecell cell vaccine is still used in countries where new drugs are not available, but this vaccine is no longer recommended for use because it has higher levels of side effects (mostly pain and inflammation at the injection site). To help reduce typhoid fever in developing countries, the World Health Organization (WHO) has approved the use of a vaccination programme since 1999. Vaccinations have proven to be an excellent way to control outbreaks in areas with high incidence. Equally important is that it is also very cost-effective. Vaccination prices are generally low, less than \$1 per dose. Because the price is low, poor communities are more willing to be vaccinated. Although typhoid vaccination programmes have proven effective, they alone cannot eliminate typhoid fever. Combining the use of vaccines with increased public health efforts is the only proven way to combat the disease. Since the 1990s, WHO has recommended two vaccines against typhoid. The VPS vaccine is given by injection, while Ty21a passes through the capsules. Only people aged 2 years and older are recommended to be vaccinated with the VPS vaccine, and this requires revaccination after 2-3 years with 55-72% vaccine efficacy. The alternative Ty21a vaccine is recommended for people aged 5 years and older and has a 5-7-year term with a vaccine effectiveness of 51-67%. These two different vaccines have been proven as safe and effective treatment for epidemic diseases in many regions. Also available is the version in combination with hepatitis A. The results of the phase 3 abdominal typhoid study in December 2016 showed an 81% fever cases among children. The treatment of oral rehydration therapy in the 1960s provided an easy way to prevent many deaths from diarrhoeal diseases in the tropics. Antibiotics Where resistance is unusual, treat the choice of fluoroquinolones such as ciprofloxacin. Otherwise, third-generation cephalosporin, such as ceftriaxone or cefotaxim, is the first choice. Cefixime is an oral alternative. Tifoid fever, with the right right is not fatal in most cases. Antibiotics such as ampicillin, chloramphenicol, trimethoprim-sulfamethoxazole, amoxicillin and ciprofloxacin are widely used to treat typhoid. Antibiotic treatment reduces fatality to about 1%. Without treatment, some patients develop persistent fever, bradycardia, hepatosplenomegaly, abdominal symptoms, and sometimes pneumonia. In white patients, pink spots, which disappear under pressure, appear on the skin of the torso up to 20% of cases. In the third week in untreated cases can develop gastrointestinal and cerebral complications, which can be fatal in 10-20% of cases. The highest mortality rates were recorded among children under the age of 4. About 2-5% of those who contract typhoid become chronic carriers as bacteria persist in the bile tract after symptoms are resolved. Surgery surgery is usually indicated if there is a perforation of the intestine. One study found a 30-day mortality rate of 9% (8/88), and surgical site infections at 67% (59/88), with the burden of disease borne predominantly by low-resource countries. For surgical treatment, most surgeons prefer the simple closure of perforation with abdominal drainage. For patients with multiple perforations, small intestine resection is shown. If antibiotic treatment cannot eradicate the hepatobiliary carriage, the gallbladder should be reused. Cholecystectomy is sometimes successful, especially in patients with gallstones, but not always successful in eradicating the condition of the carrier due to lingering liver infections. Resistance to both resistance to ampicillin, chloramphenicol, trimethoprim-sulfamethoxazole and streptomycin is now common, and these agents are no longer used as a treatment for first-line typhoid typhoid, resistant to these agents, is known as a lot of drug-resistant typhoid fever. Resistance to ciprofloxacin is a growing problem, especially in the Indian subcontinent and in south-east Asia. Many centers are moving away from the use of ciprofloxacin as a first line for the treatment of suspected typhoid originating from South America, India, Pakistan, Bangladesh, Thailand or Vietnam. For these people, the recommended treatment is the first line of ceftriaxone. In addition, azithromycin has been suggested to be better at treating resistant typhoid in populations than fluoroquinolone drugs and ceftriaxone. Azithromycin can be taken through the mouth and is cheaper than ceftriaxone, which is given by injection. A separate problem exists with laboratory testing to reduce susceptibility to ciprofloxacin: current recommendations are that isolates should be tested simultaneously against ciprofloxacin (CIP) and nalidixic acid (NAL) using the sensitive to ciprofloxacin, but this isolated was reported as a decrease in sensitivity to ciprofloxacin. However, an analysis of 171 isolates showed that about 18% of isolates with reduced susceptibility to fluoroquinolones were not picked up by this method. Epidemiological studies and articles Epidemiology of typhoid typhoid incidence Stronin Udemec endemic sporadic cases in 2000, typhoid typhoid caused an estimated 21.7 million diseases and 217,000 deaths. This is most common in children and young people between the ages of 5 and 19. In 2013, about 161,000 people died, up from 181,000 in 1990. Infants, children and adolescents in southern and central and south-east Asia bear the greatest burden of disease. Outbreaks of typhoid are also frequently reported from sub-Saharan Africa and south-east Asia. There are about 400 cases in the United States each year, 75% of which are reported during international travel. Historically, before the antibiotic era, the typhoid death rate was 10-20%. Today, with surgical treatment, it is less than 1%. However, about 3-5% of infected people develop a chronic infection in the gallbladder. Ever since S. enterica subsp. Life is limited to humans, and these chronic carriers are becoming a critical reservoir that can persist for decades to further spread the disease, making it even more difficult to detect and treat the disease. Recently, the study of S. enterica subsp. Life associated with a major outbreak and a carrier at the genome level gives new insight into pathogenic pathogenesis. In industrialized countries, water sanitation and improved food processing have reduced the number of cases. Developing countries, such as those in Asia and Africa, have the highest rates of typhoid. These areas do not have access to clean water, adequate sanitation systems and adequate health facilities. In these areas, such access to basic public health needs will not be available in the near future. Between 2004 and 2005, an outbreak in the Democratic Republic of the Congo resulted in more than 42,000 cases and 214 deaths. Since November 2016, Pakistan has experienced an outbreak of widely drug-resistant (XDR) typhoid. The story spread during the treatment of an outbreak of typhoid in a local village in 1838, English country doctor William Budd realized that poisons involved in infectious diseases, multiply in the intestines of patients, are present in their excretions and can be transmitted by healthy through their consumption of contaminated water. He proposed strict isolation or quarantine as a method of containing such outbreaks in The medical and scientific communities did not recognize the role of microorganisms in infectious diseases until the work of Robert Koch and Louis Pasteur in the 1880s. In 1880, Carl Joseph Ebert described bacilli, which he suspected was the cause of typhoid. In 1884, pathologist Georg Theodore August Gaffky (1850-1918) confirmed Ebert's findings, and names such as Bacillus Eberti, Ebert, Ebertella Tiffany and Gaffky-Ebert were given to the body. Wiley, Bacillus, which causes typhoid fever, occurs under the scientific name Salmonella enterica enterica serovar Typhi. The vaccine was first developed by British bacteriologist Almroth Edward Wright, an effective vaccine against typhoid at the Army Medical School in Netley, Hampshire. It was introduced in 1896 and was successfully used by the British during the T. Tubulent War in South Africa. At that time typhoid often killed more soldiers in the war than was lost due to enteric combat. Wright further developed his vaccine in the newly opened research department at St Mary's Hospital Medical School in London in 1902, where he created a method of measuring protective substances (anticonin) in human blood. Citing the example of the Second Boer War, during which many soldiers died of easily preventable diseases, Wright convinced the British army that 10 million doses of vaccine should be produced for troops sent to the Western Front, thus saving up half a million lives during World War I. For the first time, their losses as a result of the fighting exceeded the losses from diseases. In 1909, Frederick F. Russell, a U.S. Army physician, took Wright's abdominal vaccine for use in the Army, and two years later his vaccination program became the first in which the entire army was immunized. It eliminated typhoid fever as a significant cause of morbidity and mortality in the U.S. military. Water chlorination Lizzie van Sil was a child prisoner in a British concentration camp in southern Africa who died of typhoid during the Storm War (1899-1902). In most developed countries, the development of typhoid fever due to vaccination and advances in sanitation and hygiene in public places decreased during the first half of the 20th century. In 1893, attempts were made to chlorinate the water supply in Hamburg, Germany, and in 1897 Maidstone, England was the first city to completely chlorinate the water supply. In 1905, after an outbreak of typhoid, in Lincoln, England, was introduced constant chlorination of water. The first permanent disinfection of drinking water in the U.S. was made in 1908 in Jersey City, New Jersey, water supply. Thank you for the decision to build the system was given to John L. Lyal. The chlorination facility was designed by George W. Fuller. Mary Mallon of the 20th century (Mary's Tyfoid) in a hospital bed (foreground); in 1907 she was forcibly quarantined as a carrier of typhoid for three years, and then again from 1915 until her death in 1938. In 1902, guests at the mayor's banquets in Southampton and Winchester, England, fell ill and four died, including the dean of Winchester, after consuming oysters. The infection was caused by oysters delivered from Emsworth, where oysters were contaminated with untreated sewage. The most famous carrier of typhoid, but by no means the most destructive, was Mary Mallon, known as Typhoid Mary. In 1907, it became the first carrier in the United States to be identified and traced. She was a cook in New York who was associated with 53 cases and three deaths. The disease's terminology has been named under various names, often associated with symptoms such as gastric fever, ktienic fever, typhoid fever, childhood fever, slow fever, nervous fever, pyrogenic fever, drainage fever and low fever. Famous cases see also: Category: Death by Typhoid William Henry Harrison, 9th President of the United States of America, died 32 days after his term, in 1841. This is the shortest time served by the President of the United States. Stephen A. Douglas, a political opponent of Abraham Lincoln in 1858 and 1860, died of typhoid on June 3, 1861. William Wallace Lincoln, son of U.S. President Abraham and Mary Todd Lincoln, died of typhoid in 1862. Martha Bullock Roosevelt, London; Saunders/Elsevier, ISBN 978-1455740437. Archive from the original for 2017-02-28. Chatham-Stevens K, Medalla F, Hughes M, Appiah GD, Otter RD, Kadi H, et al (January 2019). The emergence of widely drug-resistant Typhi salmonella infections among travelers in or from Pakistan - USA, 2016-2018. *MMWR Weekly morbidity and mortality report*, 68 (1): 11-18. doi:10.15585/mmwr.mm6801a3. PMC 6342547. PMID 30629573. Jackson BR, Iqbal S, Mahon B (March 2015). Updated recommendations on the use of typhoid - Advisory Committee on Immunization Practices, United States, 2015. Weekly morbidity and mortality report, 64 64 305-8. PMC 4584884. PMID 25811680. a Abuhakir I, Tillmann T, Banerjee A et al (GBD 2013 Mortality and Causes of Death Collaborators) (January 2015). Global, regional and national age and national age mortality for 240 causes of death, 1990-2013: systematic analysis of the global burden of disease 2013. *Lancet*, 385 (9963): 117-71. doi:10.1016/S0140-6736(14)61682-2. PMC 3440604. PMID 25530442. Cunha BA (March 2004). Osler on typhoid: differentiation of typhoid from typhoid and malaria. *Infectious Disease Clinics in North America*, 18 (1): 111-25. doi:10.1016/S0891-5520(03)0094-1. PMID 15081508. Oxford English Dictionary (online), p. typhoid fever, adj. and n. Archive from the original January 11, 2008. Retrieved on March 28, 2015. Resembling or characteristic of typhoid and typhoid. Merriam Webster Dictionary. Archive from the original 2013-07-02. Received 2013-06-24. Kumar, Kumar R (March 2017). Enteric fever. *Indian Journal of Pediatrics*, 84 (3): 227-230. doi:10.1007/s12098-016-2246-4. PMID 27796818. S2CID 38258885. Tifoid fever. *Medical encyclopedia* *MedlinePlus*. medlineplus.gov. received 2020-04-21. Yap KP, Ho WS, Gan HM, Tea LC, Thong KL (2016). The global MLST salmonella Typhi is once again in the post-genomic era: genetic representation, population structure, and comparative genomics of rare types of sequence. *Boundaries in microbiology*, 7 (7): 770. doi:10.3389/fmicb.2016.00270. PMC 4774407. PMID 26973639. Wong W-C, Baker S, Picard DJ, Page AJ, Feasey NA, et al (June 2015). The phylogeographic analysis dominating the many drug-resistant hardwired of H58 Typhi salmonella determines intercontinental and intracontinental transmission events. *Natural Genetics*, 47 (6): 632-9. doi:10.1038/ng.3281. PMC 4921243. PMID 25961941. Wong W-C, Baker S, Connor TR, Picard D, Page AJ, Dave J, et al (October 2016). Advanced framework genotyping for Salmonella enterica serovar Typhi, the cause of human typhoid. *Natural communications*, 7 (1): 12827. Bibcode:2016NatCo...712827W. doi:10.1038/ncomms12827. PMC 6059462. PMID 27103135. a b c d Eng SK, Pusparajah P, Ab Mutalib NS, Ser HL, Chan KG, Lee LH (June 2015). Salmonella: A review of pathogenesis, epidemiology and antibiotic resistance. *Boundaries in the science of life*, 8 (3): 284-293. doi:10.1080/21553769.2015.1051243. Ruyck KJ, Ray CS, eds. (2004). ISBN 978-0-9385-8529-3. Faesey NA, Gordon MA (2014). Salmonella infections. In Farrar J, Hotez P, Junghanss T, Kang G, Lalloo D, White New Jersey (eds.), Manson's Tropical Infectious Diseases (23rd place). Saunders Ltd. 337-348.e2. doi:10.1016/B978-0-7020-5101-2.00026-1. ISBN 9780702051012. - London; Saunders/Elsevier, ISBN 978-1455740437. Archive from the original for 2017-02-28. Chatham-Stevens K, Medalla F, Hughes M, Appiah GD, Otter RD, Kadi H, et al (January 2019). The emergence of widely drug-resistant Typhi salmonella infections among travelers in or from Pakistan - USA, 2016-2018. *MMWR Weekly morbidity and mortality report*, 68 (1): 11-18. doi:10.15585/mmwr.mm6801a3. PMC 6342547. PMID 30629573. Jackson BR, Iqbal S, Mahon B (March 2015). Updated recommendations on the use of typhoid - Advisory Committee on Immunization Practices, United States, 2015. Weekly morbidity and mortality report, 64 64 305-8. PMC 4584884. PMID 25811680. a Abuhakir I, Tillmann T, Banerjee A et al (GBD 2013 Mortality and Causes of Death Collaborators) (January 2015). Global, regional and national age and national age mortality for 240 causes of death, 1990-2013: systematic analysis of the global burden of disease 2013. *Lancet*, 385 (9963): 117-71. doi:10.1016/S0140-6736(14)61682-2. PMC 3440604. PMID 25530442. Cunha BA (March 2004). Osler on typhoid: differentiation of typhoid from typhoid and malaria. *Infectious Disease Clinics in North America*, 18 (1): 111-25. doi:10.1016/S0891-5520(03)0094-1. PMID 15081508. Oxford English Dictionary (online), p. typhoid fever, adj. and n. Archive from the original January 11, 2008. Retrieved on March 28, 2015. Resembling or characteristic of typhoid and typhoid. Merriam Webster Dictionary. Archive from the original 2013-07-02. Received 2013-06-24. Kumar, Kumar R (March 2017). Enteric fever. *Indian Journal of Pediatrics*, 84 (3): 227-230. doi:10.1007/s12098-016-2246-4. PMID 27796818. S2CID 38258885. Tifoid fever. *Medical encyclopedia* *MedlinePlus*. medlineplus.gov. received 2020-04-21. Yap KP, Ho WS, Gan HM, Tea LC, Thong KL (2016). The global MLST salmonella Typhi is once again in the post-genomic era: genetic representation, population structure, and comparative genomics of rare types of sequence. *Boundaries in microbiology*, 7 (7): 770. doi:10.3389/fmicb.2016.00270. PMC 4774407. PMID 26973639. Wong W-C, Baker S, Picard DJ, Page AJ, Feasey NA, et al (June 2015). The phylogeographic analysis dominating the many drug-resistant hardwired of H58 Typhi salmonella determines intercontinental and intracontinental transmission events. *Natural Genetics*, 47 (6): 632-9. doi:10.1038/ng.3281. PMC 4921243. PMID 25961941. Wong W-C, Baker S, Connor TR, Picard D, Page AJ, Dave J, et al (October 2016). Advanced framework genotyping for Salmonella enterica serovar Typhi, the cause of human typhoid. *Natural communications*, 7 (1): 12827. Bibcode:2016NatCo...712827W. doi:10.1038/ncomms12827. PMC 6059462. PMID 27103135. a b c d Eng SK, Pusparajah P, Ab Mutalib NS, Ser HL, Chan KG, Lee LH (June 2015). Salmonella: A review of pathogenesis, epidemiology and antibiotic resistance. *Boundaries in the science of life*, 8 (3): 284-293. doi:10.1080/21553769.2015.1051243. Ruyck KJ, Ray CS, eds. (2004). ISBN 978-0-9385-8529-3. Faesey NA, Gordon MA (2014). Salmonella infections. In Farrar J, Hotez P, Junghanss T, Kang G, Lalloo D, White New Jersey (eds.), Manson's Tropical Infectious Diseases (23rd place). Saunders Ltd. 337-348.e2. doi:10.1016/B978-0-7020-5101-2.00026-1. ISBN 9780702051012. - London; Saunders/Elsevier, ISBN 978-1455740437. Archive from the original for 2017-02-28. Chatham-Stevens K, Medalla F, Hughes M, Appiah GD, Otter RD, Kadi H, et al (January 2019). The emergence of widely drug-resistant Typhi salmonella infections among travelers in or from Pakistan - USA, 2016-2018. *MMWR Weekly morbidity and mortality report*, 68 (1): 11-18. doi:10.15585/mmwr.mm6801a3. PMC 6342547. PMID 30629573. Jackson BR, Iqbal S, Mahon B (March 2015). Updated recommendations on the use of typhoid - Advisory Committee on Immunization Practices, United States, 2015. Weekly morbidity and mortality report, 64 64 305-8. PMC 4584884. PMID 25811680. a Abuhakir I, Tillmann T, Banerjee A et al (GBD 2013 Mortality and Causes of Death Collaborators) (January 2015). Global, regional and national age and national age mortality for 240 causes of death, 1990-2013: systematic analysis of the global burden of disease 2013. *Lancet*, 385 (9963): 117-71. doi:10.1016/S0140-6736(14)61682-2. PMC 3440604. PMID 25530442. Cunha BA (March 2004). Osler on typhoid: differentiation of typhoid from typhoid and malaria. *Infectious Disease Clinics in North America*, 18 (1): 111-25. doi:10.1016/S0891-5520(03)0094-1. PMID 15081508. Oxford English Dictionary (online), p. typhoid fever, adj. and n. Archive from the original January 11, 2008. Retrieved on March 28, 2015. Resembling or characteristic of typhoid and typhoid. Merriam Webster Dictionary. Archive from the original 2013-07-02. Received 2013-06-24. Kumar, Kumar R (March 2017). Enteric fever. *Indian Journal of Pediatrics*, 84 (3): 227-230. doi:10.1007/s12098-016-2246-4. PMID 27796818. S2CID 38258885. Tifoid fever. *Medical encyclopedia* *MedlinePlus*. medlineplus.gov. received 2020-04-21. Yap KP, Ho WS, Gan HM, Tea LC, Thong KL (2016). The global MLST salmonella Typhi is once again in the post-genomic era: genetic representation, population structure, and comparative genomics of rare types of sequence. *Boundaries in microbiology*, 7 (7): 770. doi:10.3389/fmicb.2016.00270. PMC 4774407. PMID 26973639. Wong W-C, Baker S, Picard DJ, Page AJ, Feasey NA, et al (June 2015). The phylogeographic analysis dominating the many drug-resistant hardwired of H58 Typhi salmonella determines intercontinental and intracontinental transmission events. *Natural Genetics*, 47 (6): 632-9. doi:10.1038/ng.3281. PMC 4921243. PMID 25961941. Wong W-C, Baker S, Connor TR, Picard D, Page AJ, Dave J, et al (October 2016). Advanced framework genotyping for Salmonella enterica serovar Typhi, the cause of human typhoid. *Natural communications*, 7 (1): 12827. Bibcode:2016NatCo...712827W. doi:10.1038/ncomms12827. PMC 6059462. PMID 27103135. a b c d Eng SK, Pusparajah P, Ab Mutalib NS, Ser HL, Chan KG, Lee LH (June 2015). Salmonella: A review of pathogenesis, epidemiology and antibiotic resistance. *Boundaries in the science of life*, 8 (3): 284-293. doi:10.1080/21553769.2015.1051243. Ruyck KJ, Ray CS, eds. (2004). ISBN 978-0-9385-8529-3. Faesey NA, Gordon MA (2014). Salmonella infections. In Farrar J, Hotez P, Junghanss T, Kang G, Lalloo D, White New Jersey (eds.), Manson's Tropical Infectious Diseases (23rd place). Saunders Ltd. 337-348.e2. doi:10.1016/B978-0-7020-5101-2.00026-1. ISBN 9780702051012. - London; Saunders/Elsevier, ISBN 978-1455740437. Archive from the original for 2017-02-28. Chatham-Stevens K, Medalla F, Hughes M, Appiah GD, Otter RD, Kadi H, et al (January 2019). The emergence of widely drug-resistant Typhi salmonella infections among travelers in or from Pakistan - USA, 2016-2018. *MMWR Weekly morbidity and mortality report*, 68 (1): 11-18. doi:10.15585/mmwr.mm6801a3. PMC 6342547. PMID 30629573. Jackson BR, Iqbal S, Mahon B (March 2015). Updated recommendations on the use of typhoid - Advisory Committee on Immunization Practices, United States, 2015. Weekly morbidity and mortality report, 64 64 305-8. PMC 4584884. PMID 25811680. a Abuhakir I, Tillmann T, Banerjee A et al (GBD 2013 Mortality and Causes of Death Collaborators) (January 2015). Global, regional and national age and national age mortality for 240 causes of death, 1990-2013: systematic analysis of the global burden of disease 2013. *Lancet*, 385 (9963): 117-71. doi:10.1016/S0140-6736(14)61682-2. PMC 3440604. PMID 25530442. Cunha BA (March 2004). Osler on typhoid: differentiation of typhoid from typhoid and malaria. *Infectious Disease Clinics in North America*, 18 (1): 111-25. doi:10.1016/S0891-5520(03)0094-1. PMID 15081508. Oxford English Dictionary (online), p. typhoid fever, adj. and n. Archive from the original January 11, 2008. Retrieved on March 28, 2015. Resembling or characteristic of typhoid and typhoid. Merriam Webster Dictionary. Archive from the original 2013-07-02. Received 2013-06-24. Kumar, Kumar R (March 2017). Enteric fever. *Indian Journal of Pediatrics*, 84 (3): 227-230. doi:10.1007/s12098-016-2246-4. PMID 27796818. S2CID 38258885. Tifoid fever. *Medical encyclopedia* *MedlinePlus*. medlineplus.gov. received 2020-04-21. Yap KP, Ho WS, Gan HM, Tea LC, Thong KL (2016). The global MLST salmonella Typhi is once again in the post-genomic era: genetic representation, population structure, and comparative genomics of rare types of sequence. *Boundaries in microbiology*, 7 (7): 770. doi:10.3389/fmicb.2016.00270. PMC 4774407. PMID 26973639. Wong W-C, Baker S, Picard DJ, Page AJ, Feasey NA, et al (June 2015). The phylogeographic analysis dominating the many drug-resistant hardwired of H58 Typhi salmonella determines intercontinental and intracontinental transmission events. *Natural Genetics*, 47 (6): 632-9. doi:10.1038/ng.3281. PMC 4921243. PMID 25961941. Wong W-C, Baker S, Connor TR, Picard D, Page AJ, Dave J, et al (October 2016). Advanced framework genotyping for Salmonella enterica serovar Typhi, the cause of human typhoid. *Natural communications*, 7 (1): 12827. Bibcode:2016NatCo...712827W. doi:10.1038/ncomms12827. PMC 6059462. PMID 27103135. a b c d Eng SK, Pusparajah P, Ab Mutalib NS, Ser HL, Chan KG, Lee LH (June 2015). Salmonella: A review of pathogenesis, epidemiology and antibiotic resistance. *Boundaries in the science of life*, 8 (3): 284-293. doi:10.1080/21553769.2015.1051243. Ruyck KJ, Ray CS, eds. (2004). ISBN 978-0-9385-8529-3. Faesey NA, Gordon MA (2014). Salmonella infections. In Farrar J, Hotez P, Junghanss T, Kang G, Lalloo D, White New Jersey (eds.), Manson's Tropical Infectious Diseases (23rd place). Saunders Ltd. 337-348.e2. doi:10.1016/B978-0-7020-5101-2.00026-1. ISBN 9780702051012. - London; Saunders/Elsevier, ISBN 978-1455740437. Archive from the original for 2017-02-28. Chatham-Stevens K, Medalla F, Hughes M, Appiah GD, Otter RD, Kadi H, et al (January 2019). The emergence of widely drug-resistant Typhi salmonella infections among travelers in or from Pakistan - USA, 2016-2018. *MMWR Weekly morbidity and mortality report*, 68 (1): 11-18. doi:10.15585/mmwr.mm6801a3. PMC 6342547. PMID 30629573. Jackson BR, Iqbal S, Mahon B (March 2015). Updated recommendations on the use of typhoid - Advisory Committee on Immunization Practices, United States, 2015. Weekly morbidity and mortality report, 64 64 305-8. PMC 4584884. PMID 25811680. a Abuhakir I, Tillmann T, Banerjee A et al (GBD 2013 Mortality and Causes of Death Collaborators) (January 2015). Global, regional and national age and national age mortality for 240 causes of death, 1990-2013: systematic analysis of the global burden of disease 2013. *Lancet*, 385 (9963): 117-71. doi:10.1016/S0140-6736(14)61682-2. PMC 3440604. PMID 25530442. Cunha BA (March 2004). Osler on typhoid: differentiation of typhoid from typhoid and malaria. *Infectious Disease Clinics in North America*, 18 (1): 111-25. doi:10.1016/S0891-5520(03)0094-1. PMID 15081508. Oxford English Dictionary (online), p. typhoid fever, adj. and n. Archive from the original January 11, 2008. Retrieved on March 28, 2015. Resembling or characteristic of typhoid and typhoid. Merriam Webster Dictionary. Archive from the original 2013-07-02. Received 2013-06-24. Kumar, Kumar R (March 2017). Enteric fever. *Indian Journal of Pediatrics*, 84 (3): 227-230. doi:10.1007/s12098-016-2246-4. PMID 27796818. S2CID 38258885. Tifoid fever. *Medical encyclopedia* *MedlinePlus*. medlineplus.gov. received 2020-04-21. Yap KP, Ho WS, Gan HM, Tea LC, Thong KL (2016). The global MLST salmonella Typhi is once again in the post-genomic era: genetic representation, population structure, and comparative genomics of rare types of sequence. *Boundaries in microbiology*, 7 (7): 770. doi:10.3389/fmicb.2016.00270. PMC 4774407. PMID 26973639. Wong W-C, Baker S, Picard DJ, Page AJ, Feasey NA, et al (June 2015). The phylogeographic analysis dominating the many drug-resistant hardwired of H58 Typhi salmonella determines intercontinental and intracontinental transmission events. *Natural Genetics*, 47 (6): 632-9. doi:10.1038/ng.3281. PMC 4921243. PMID 25961941. Wong W-C, Baker S, Connor TR, Picard D, Page AJ, Dave J, et al (October 2016). Advanced framework genotyping for Salmonella enterica serovar Typhi, the cause of human typhoid. *Natural communications*, 7 (1): 12827. Bibcode:2016NatCo...712827W. doi:10.1038/ncomms12827. PMC 6059462. PMID 2710313