

Chapter 1 : Doctors disagree over detention of patients with extensively drug resistant tuberculosis

*The Tuberculosis Survival Handbook [Paul Mayho] on calendrierdelascience.com *FREE* shipping on qualifying offers. It is uniquely aimed at both patients and physicians. Part One of the book includes a clinician's perspective.*

Mycobacterium tuberculosis is a rod-shaped, non-motile, slow-growing, acid-fast bacterium. Bovine TB caused by the closely related M. TB occurs throughout the world, but the incidence varies see Map In the United States, the annual incidence is 3 per , population, but in some countries in sub-Saharan Africa and Asia, the annual incidence is several hundred per , Drug-resistant TB is of increasing concern. TB test see Perspectives: Tuberculin Skin Testing of Travelers , later in this chapter. Because people with HIV infection or other immunocompromising conditions are more likely to have an impaired response to either a skin or blood test, travelers should inform their clinicians about such conditions. The risk of TB transmission on an airplane does not appear to be higher than in any other enclosed space. To prevent TB transmission, people who have infectious TB TB that can be transmitted to other people should not travel by commercial airplanes or other commercial conveyances. Passengers concerned about possible exposure to TB should see their primary health care provider or visit their local health department clinic for evaluation. Mexico is a common place of infection for US travelers. Common TB symptoms include prolonged cough, fever, decreased appetite, weight loss, night sweats, and coughing up blood hemoptysis. The most common sites for TB outside the lungs are the lymph nodes, pleura, bones and joints, brain and spinal cord lining meningitis , kidneys, bladder, and genitalia. Progression to disease can occur weeks to decades after initial infection. People with TB disease have symptoms or other manifestations of illness such as an abnormal chest radio-graph. In the remainder, the infection remains in a latent state latent TB infection or LTBI in which the infected person has no symptoms and cannot spread TB to others. People who are receiving tumor necrosis factor inhibitors to treat rheumatoid arthritis and other chronic inflammatory conditions are also at increased risk for disease progression. On average, it takes about 2 weeks to culture and identify M. A preliminary diagnosis of TB can be made when acid-fast bacilli are seen by microscope on sputum smear or in other body tissues or fluids. However, microscopy cannot distinguish between M. This is particularly problematic in countries such as the United States where TB incidence is low. Nucleic acid amplification tests are more rapid than culture and specific for M. They are also more sensitive than the acid-fast bacillus smear but less sensitive than culture. A diagnosis of TB disease can be made by using clinical criteria in the absence of microbiologic confirmation. However, laboratory testing should be performed when feasible to confirm the diagnosis. Molecular tests for drug resistance can be performed directly on specimens and can guide initial treatment while culture results are pending. Culture-based susceptibility testing is recommended for all patients with a positive culture, regardless of the availability of molecular testing, to make a final determination on the appropriate drug regimen. Tuberculosis is a nationally notifiable disease. For people who have been exposed to isoniazidresistant, rifampin-susceptible TB or who cannot tolerate isoniazid, 4 months of rifampin is a reasonable alternative. Travelers who suspect that they have been exposed to TB should inform their health care provider of the possible exposure and receive medical evaluation. Because drug resistance is relatively common in some parts of the world, travelers who have TST or IGRA conversion associated with international travel should consult experts in infectious diseases or pulmonary medicine. TB disease is treated with a multiple-drug regimen administered by directly observed therapy for 6â€”9 months usually isoniazid, rifampin, ethambutol, and pyrazinamide for 2 months, followed by isoniazid and rifampin for an additional 4 months if the TB is not MDR TB. Estimated tuberculosis incidence rates1 1 Disease data source:

Chapter 2 : Tuberculosis Guidelines and Recommendations

Drug-Resistant Tuberculosis: A Survival Guide for Clinicians, Third Edition was created through a collaboration of the Curry International Tuberculosis Center (CITC) and the State of California Department of Public Health, Tuberculosis Control Branch (CDPH).

Illustration by Frank Forney. Reproduced by permission of Cengage Learning. Definition Tuberculosis TB is a chronic, potentially fatal contagious disease that most often affects the lungs but can affect other parts of the body. It is caused by a bacterium or tubercle bacillus *Mycobacterium tuberculosis*. Description Overview Tuberculosis was the common disease called consumption until well into the twentieth century. In when the microbiologist Robert Koch discovered the tubercle bacillus that causes the disease, TB caused one of every seven deaths in Europe. The tubercle bacillus is transmitted when an infected person coughs or sneezes and another person breathes in the infected droplets. The disease is not spread through kissing or other physical contact. Before antibiotics were discovered in the mids, the only means of controlling the spread of TB was to isolate patients in sanatoriums or hospitals limited to patients with TB. This practice continues today in some countries. The effect of this pattern of treatment was to separate the study of tuberculosis from mainstream medicine. Entire organizations were set up to study not only the disease as it affected individual patients, but also its impact on society. By there were more than specialized TB facilities in the United States. Tuberculosis spread widely in Europe as the result of the industrial revolution in the late nineteenth century when many people moved to towns where they lived in crowded, unsanitary conditions. The disease became widespread somewhat later in the United States. In the early s with the discovery of streptomycin, the first antibiotic effective against *M.* Although other more effective anti-tuberculosis drugs that continue to reduce the number of TB cases have been developed in the past half century, reports of active TB cases in the United States began increase in the mids. This upsurge was in part a result of overcrowding and unsanitary conditions in the poor areas of large cities, prisons, and homeless shelters. Infected visitors and immigrants to the United States also contributed to the resurgence of TB. An additional factor was the AIDS epidemic. The number of reported TB cases in the United States peaked in and has since declined. In the mid s, health officials worldwide joined to work at preventing a drug-resistant form of the disease from becoming widespread. However, the rate of multi-drug resistant had increased About one-third of infections occur in Southeast Asia. WHO estimates that TB caused about 1. Although the rate per capita of active TB is declining worldwide, the absolute number of cases is increasing in many areas because of high population growth. About one-quarter of TB cases newly diagnosed in people over age Many elderly individuals developed TB after acquiring a latent TB infection years earlier. As they age, their immune systems can no longer control the disease and they develop active TB symptoms. In addition, elderly people living in nursing homes and other group facilities are often in close contact with others who may be infected. Individuals of lower socioeconomic status tend to live in more crowded conditions and have less access to health care than higher socioeconomic status individuals, conditions which encourage the infection with *M.* As of , TB was a major health problem in the United States among certain immigrant groups that come from countries where TB infection is common. California, New York, Texas, Florida, all states with large immigrant populations, accounted for almost half of all active TB cases. Other people who take drugs that suppress the immune system e. Individuals who are alcoholics, intravenous drug abusers, and the homeless are also at increased risk of contracting tuberculosis. Causes and symptoms Transmission Tuberculosis spreads by droplet infection. When a person infected with *M.* People in close physical contact with the infected person inhale this fine mist. Tuberculosis is not highly contagious compared to some other infectious diseases. As a rule, close, frequent, or prolonged contact is needed to spread the disease. Most people do not develop TB even when exposed to a person with active TB. The most important exception is pregnancy. The fetus of an infected mother may contract TB by inhaling or swallowing the bacilli in the amniotic fluid. Progression Once a person inhales *M.* The bacteria can become dormant and never grow; no TB symptoms are seen, and the person is not contagious. The bacteria can become dormant for a period, then begin to grow; TB symptoms appear a long time after infection. The person is not contagious

during the dormant period, then becomes contagious when symptoms appear. The bacteria multiplies immediately; active TB symptoms appear and the person is contagious. At least nine of ten people who are infected with *M. tuberculosis* have what is called a latent TB infection. They are not contagious; however, they do form a pool of infected individuals who may get sick later and then pass on TB to others. In the United States, there are about 10 million people with latent TB infections. It is impossible to predict which individuals with latent TB infections will develop active TB. On rare occasions, a previously infected person gets sick again after a later exposure to the tubercle bacillus. Pulmonary tuberculosis is TB that affects the lungs. Its initial symptoms are easily confused with those of other diseases. An infected person may at first feel vaguely unwell or develop a cough that could be blamed on smoking or a cold. A small amount of greenish or yellow sputum may be coughed up when the person gets up in the morning. In time, more sputum is produced that is streaked with blood. People who have pulmonary TB do not get a high fever, but they often have a low-grade one. The individual often loses interest in food and may lose weight. Chest pain is sometimes present. If the infection allows air to escape from the lungs into the chest cavity pneumothorax or if fluid collects in the pleural space pleural effusion, the patient may have difficulty breathing. If a young adult develops a pleural effusion, the chance of tubercular infection being the cause is very high. Before the development of effective TB drugs, many patients became chronically ill with increasingly severe lung symptoms. They lost a great deal of weight and developed a wasted appearance, hence the name consumption. This outcome is uncommon today where modern treatment methods are available. Extrapulmonary tuberculosis Although the lungs are the major site of damage caused by tuberculosis, other organs and tissues in the body may be affected. The usual progression is for the disease to spread from the lungs to locations outside the lungs extrapulmonary sites. In occasional cases, however, the first sign of disease appears outside the lungs. The many tissues or organs that tuberculosis may affect include: TB is particularly likely to attack the spine and the ends of the long bones. Children are especially prone to spinal tuberculosis. If not treated, the spinal segments vertebrae may collapse and cause paralysis in one or both legs. Along with the bones, the kidneys are the commonest site of extrapulmonary TB. There may, however, be few symptoms even after part of a kidney is destroyed. TB may also spread to the bladder. In men, it may spread to the prostate gland and nearby structures. The ovaries in women may be infected and TB may spread from them to the peritoneum the membrane lining the abdominal cavity. Tuberculosis peritonitis may cause pain ranging from the vague discomfort of stomach cramps to intense pain that may mimic the symptoms of appendicitis. Tubercular infection of joints causes a form of arthritis that most often affects the hips and knees. The wrist, hand, and elbow joints also may become painful and inflamed. The meninges are tissues that cover the brain and the spinal cord. Infection of the meninges by the TB bacillus causes tuberculosis meningitis, a condition that is most common in young children but is especially dangerous in the elderly. Patients develop headaches, become drowsy, and eventually comatose. Permanent brain damage is the rule unless prompt treatment is given. Some patients with tuberculosis meningitis develop a tumor-like brain mass called a tuberculoma that can cause stroke-like symptoms. All these parts of the body can be infected by *M. tuberculosis*. Miliary TB is a life-threatening condition that occurs when large numbers of tubercle bacilli spread throughout the body. Huge numbers of tiny tubercular lesions develop that cause marked weakness and weight loss, severe anemia, and gradual wasting of the body. There is concern that drug-resistant TB could spread widely and cause a public health crisis. Diseases similar to tuberculosis There are many forms of mycobacteria other than *M. tuberculosis*. This occurs, for example, in some people who are HIV-positive. People infected by MAC are not contagious, but they may develop a serious lung infection that is highly resistant to antibiotics. MAC infections typically start with the patient coughing up mucus. The infection progresses slowly, but eventually blood is brought up in the sputum, and the patient has trouble breathing. Often these patients die unless their immune system can be strengthened. Other mycobacteria grow in swimming pools and may cause skin infection. Some of them infect wounds and artificial body parts such as a breast implants or mechanical heart valves.

Chapter 3 : Tuberculosis - Symptoms and causes - Mayo Clinic

It is uniquely aimed at both patients and physicians. Part One of the book includes a clinician's perspective, epidemiology, etiology, diagnosis, treatment and management of calendrieldelascience.com Two covers the patient's perspective, diagnosis, treatment and the importance of adherence a treatment regime, understanding isolation and lifestyle management.

Caribbean Islands Poverty and substance abuse Lack of medical care. If you receive a low or fixed income, live in a remote area, have recently immigrated to the United States, or are homeless, you may lack access to the medical care needed to diagnose and treat TB. IV drug use or alcohol abuse weakens your immune system and makes you more vulnerable to tuberculosis. Using tobacco greatly increases the risk of getting TB and dying of it. Where you work or live Health care work. Regular contact with people who are ill increases your chances of exposure to TB bacteria. Wearing a mask and frequent hand-washing greatly reduce your risk. Living or working in a residential care facility. People who live or work in prisons, immigration centers or nursing homes are all at a higher risk of tuberculosis. Living in a refugee camp or shelter. Weakened by poor nutrition and ill health and living in crowded, unsanitary conditions, refugees are at especially high risk of tuberculosis infection. Complications Without treatment, tuberculosis can be fatal. Untreated active disease typically affects your lungs, but it can spread to other parts of your body through your bloodstream. Examples of tuberculosis complications include: Back pain and stiffness are common complications of tuberculosis. Tuberculous arthritis usually affects the hips and knees. Swelling of the membranes that cover your brain meningitis. This can cause a lasting or intermittent headache that occurs for weeks. Mental changes also are possible. Liver or kidney problems. Your liver and kidneys help filter waste and impurities from your bloodstream. These functions become impaired if the liver or kidneys are affected by tuberculosis. This condition, called cardiac tamponade, can be fatal. Prevention If you test positive for latent TB infection, your doctor may advise you to take medications to reduce your risk of developing active tuberculosis. The only type of tuberculosis that is contagious is the active variety, when it affects the lungs. Protect your family and friends If you have active TB, keep your germs to yourself. Follow these tips to help keep your friends and family from getting sick: Use a tissue to cover your mouth anytime you laugh, sneeze or cough. Put the dirty tissue in a bag, seal it and throw it away. Finish your entire course of medication This is the most important step you can take to protect yourself and others from tuberculosis. When you stop treatment early or skip doses, TB bacteria have a chance to develop mutations that allow them to survive the most potent TB drugs. The resulting drug-resistant strains are much more deadly and difficult to treat. Vaccinations In countries where tuberculosis is more common, infants often are vaccinated with bacillus Calmette-Guerin BCG vaccine because it can prevent severe tuberculosis in children. Dozens of new TB vaccines are in various stages of development and testing. See the stories of satisfied Mayo Clinic patients.

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Chapter 5 : Richard J. Coker (Editor of The Tuberculosis Survival Handbook)

The first edition () of Tuberculosis Drug Information Guide was derived from Drug-Resistant Tuberculosis: A Survival Guide for Clinicians (2nd edition) produced in by the Curry International Tuberculosis Center (CITC) and the State of California Department of Public Health, Tuberculosis Control Branch (CDPH).

Chapter 6 : Tuberculosis (TB) | CDC

Richard J. Coker is the author of From Chaos to Coercion (avg rating, 3 ratings, 1 review, published) and The Tuberculosis Survival Handbook (5.

Chapter 7 : Paul Mayho (Author of The Tuberculosis Survival Handbook)

own survival was a good understanding of TB/MDR-TB and perseverance with TB treatment. This booklet, I hope, will go some way to improving your own understanding of what is happen- ing to you and guide you through your very own TB treatment journey.

Chapter 8 : Global TB Center

Get this from a library! The tuberculosis survival handbook. [Paul Mayho; Marcos Espinal; Ernesto Jaramillo] -- This book is an engrossing personal story as well as an invaluable source of information for people with TB around the world.

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