

Tuberculosis

If about a year ago a prophet told Daniel that he would not be going for youth service with the batch A set, he would simply smile and rebuked such seer. A first class student of the faculty of Engineering in a Nigerian University, Daniel is a friend to both the good the bad and the ugly. Though brilliant, he was from a humble home and because of the training he had received from his father, he would never stoop low to either beg for food, money or involved in any illegal means of generating money while on campus. Rather, he would go nights without food.

The examination period was the worst time in his academic carrier. With a CGPA of 4.65, Daniel would do anything to maintain the first class status. He did not only burn the midnight candle to achieve his dream he also went on days without eating, brushing and even bathing. He became so lean that people who didn't know him tried to avoid him on the road while his classmates called him 'the professor'.

No sooner than he finished his exam did he start feeling weak and tired. At first people thought it was the stress of the examination and that with time he would overcome it. Friends suggested anti malaria drugs for him, which he got. Then came the dry cough that was severe enough to cause chest pain. He bought several combinations of antibiotics but to no avail. He was losing weight. And because he sweated a lot, his friends concluded he was suffering from internal heat.

Things went awry when Daniel started seeing traces of blood in his sputum. He remembered the adverts he had seen on television, rushed to the hospital and was diagnosed of tuberculosis. What really pained him was that despite being the best in the faculty, he would still have to miss a year as he would have to be on drugs for about six months.

Introduction.

Tuberculosis is a chronic infection characterized by caseous necrosis and granuloma formation. It is caused by the bacteria called mycobacterium tuberculosis. Tuberculosis affects majorly the lungs where it causes the characteristics cough with hemoptysis (bloody sputum). However, it can also affect other parts of the body like ovary, testis, brain, spine, skin, blood, the bone and in fact virtually every human organ. This widely popular disease is one of the diseases of stigmatization and affects 1/3 of the world population. 15 – 20 million new infection were detected annually and more than 3 million deaths occur from tuberculosis every year. 90% of the morbidity and mortality are from the developing countries partly because of the HIV

disease that is prevalent here or because of the low level of immunity as a result of malnutrition.

Mode of transmission

Tuberculosis is transmitted usually as an airborne disease. When the infected person coughs, sneezes or talks, the pathogen is released in droplets into the air. Mycobacterium is one pathogen that is common in every nooks and crannies of tropical countries. When this organism is inhaled it goes into the lungs where it causes primary TB. In most people the primary T.B infection will only give a slight weakness and not much serious problem. This only leaves a small mark in the lungs called Ghon focus.

The secondary infection of tuberculosis could either be as a result of reactivation of the endogenous T. B (the primary TB that was in the lung but inactive) or exogenous re-infection (new TB infection).

Risk factors.

It is rare for a healthy human with good immune status to come down with tuberculosis. For a person to be infected with this disease, he or she must have a history of prolong contact with an infected person. Usually living under the same roofs with an infected person for a period of one to three months could predispose one to contract the disease. Most especially if the ventilation system of the house is poor.

People with low immune system are the worse hit when tuberculosis is mentioned. Like in our opening anecdote, low level of immunity does not only come with HIV/AIDS infection, malnutrition is one major cause of immune suppression in Africa. Other causes of immune suppression include HIV/AIDS, stress, diabetes mellitus, pregnancy, leukemia, prolong steroid use, smoking, alcohol and patient that had gastrectomy an operation usually done to correct chronic peptic ulcer disease.

Clinical feature

The commonest presentation of pulmonary tuberculosis (TB of the lung) is cough. The cough could be associated with chest pain and except in HIV patients, it is usually associated with bloody sputum. In most cases the cough would have been on for over one month before the patient presents in the hospital. The patient also complains of a constant low grade fever and night sweats. There may be generalized feeling of unwell with loss of appetite.

Investigations

The most important investigation when tuberculosis is suspected is a chest x ray. It is often said that any pathology in the chest x ray of a suspected case points to tuberculosis. However, the diagnostic feature on x ray is the presence of cavitations which are dark areas surrounded by white areas seen at the apical region of the lung. These are expected to be seen in all cases of tuberculosis except in HIV/AIDS group of patients where such may be absent. Other features seen on the x ray will depend on the severity of the disease, there could be lung collapse, pleural effusion, opacification to mention but a few.

Other investigations include sputum AFB (acid fast bacilli), which is like a way to detect mycobacterium in the laboratory. A negative AFB result however does not remove the fact that the patient has TB. Mantoux and heave tests are other tests done on the patients to confirm the result but as in the case of AFB a negative result does not mean a negative patient.

The routine full blood count with fasting blood sugar should be done as well as retroviral screening which is mandatory in all cases of suspected tuberculosis.

Treatment

When diagnosed, patient should be referred to a centre where T.B is treated. The treatment is free in all government approved centres in Nigeria. Directly observed therapy (DOTS) is instituted in which the patient is placed on a group of drugs for a period of six months to one year. During the course of the treatment, chest x ray is repeated with the sputum AFB to monitor progress.

The cause of the immune suppression should also be identified and treated where treatment is required. The treatment of TB in HIV/AIDS is however slightly different.

The first line drugs used are Rifampicin, Isonazid, Pyrazinamide, ethambutol, and streptomycin. The second line drugs include cycloserine and kanamycin.

Fluroquinolones are the third line drugs.

Conclusion.

People should eat healthy food, manage all medical conditions and in case of HIV know their status early.

When cough persists for more than a month despite all routine antibiotics, people should seek health care for screening. Like I often say, the earlier is always better.

Till next week, live healthy; stay healthy.

Staff writer

Dr Daso O Samuel (saydasho@yahoo.com)

Medical Officer AAUA Health Centre.

Editor in Chief

Dr Aiyejumoh J.B

Director of Health Services

AAUA Health Centre.

Health centre hotline

07057595713