

TUBERCULOSIS OUTSIDE THE LUNGS

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Tuberculosis outside the lungs: The hidden facts

By Dr. Julius A. Ogeng'o

The history of tuberculosis in North Africa, Europe and Asia is almost as old as that of man in those regions. Nonetheless, although infection and disease had long been prevalent on the East African sea board owing to Arab, Asian and European contact, the interior of the continent remained virtually uninfected because of the poor means of communication and the life patterns of isolated or semi-isolated communities. This protective barrier disappeared at the start of this century and now Tuberculosis is widespread in all parts of the world. However, as I indicated in the previous issue, varying material standards, affordability of drugs and increased surveillance procedures contribute a lot to the difference in incidence and prevalence of the disease in various parts of the world.

Once the disease gets into the body, commonly by breathing in the microbes or by drinking infected milk, the microbes multiply and sooner or later get to all parts of the body, through the blood stream and/or lymphatics. If the body immunity is strong, they are destroyed but if the offenders overwhelm the resistance, infection sets in at one or two other sites. This spread is what makes tuberculosis a systemic infection even though weighing more heavily on the lungs. In the previous issue, I discussed in detail tuberculosis in general and later focused on lung tuberculosis. In this issue, I shall mention tuberculosis of other organs and later concentrate on tuberculosis of the spine which is a disabling, often lethal, yet easily treatable, form of Tuberculosis.

● TUBERCULOSIS IN THE ABDOMEN

Virtually all organs in the abdomen may be affected.

Intestinal tuberculosis occurs when the offending organisms are swallowed



Dr. J.A. Ogeng'o: "It is important to realise that tuberculosis of any organ is treatable in hospitals in the early stages"

through infected food, usually milk from infected cows or when sputum from infected lungs is coughed up and swallowed. The lining of the small intestines gets infected and eventually destroyed leading to poor digestion and absorption. This causes starvation, diarrhoea and/or raw stools. Causes of raw stool were discussed by Dr. Hedi in the previous issue. Intestinal obstruction may follow and often super-infection by other more devastating bacteria adds insult to injury, occasionally with very harmful effects. From the intestines, the infection may spread to the liver, impairing its function(s).

The coverings of the abdominal organs, the peritoneum, may be afflicted causing progressive abdominal distension due to fluid accumulation. This kind of fluid accumulation, called ascitis may also be due to diseases of the liver, kidney, heart and so on. As a result of Tuberculosis, wasting and other constitutional features of the disease are frequently present.

The lymph glands in the abdomen may be affected, causing compression of other structures including blood vessels. Abdominal distension, with masses you could feel, is the commonest mode of presentation. It may resemble other diseases like lymphomas, kidney tumors etc.

Kidney tuberculosis usually follows

spread through the blood stream and destroys the kidneys. The effects resemble those of other kidney diseases and may include passing bloody urine that is less than usual, abdominal pain, general body swelling (oedema) and so on. When kidney function has been significantly impaired, the patient may progress to frank kidney failure and eventually die. Spread from the kidney may also involve an important gland called the suprarenal (Adrenal) that just overlies it.

Tuberculosis could affect the genital organs; in females, the ovaries, fallopian tubes and uterus. In the latter, the endometrium (the lining of uterine wall) is destroyed, causing infertility. In the fallopian tubes, disease presents as pelvic inflammatory disease - discussed in the previous issue. In males, any organ from the testis could be affected. As a result, male sterility could follow.

● TUBERCULOSIS IN THE HEAD AND NECK

Again here, no organ is spared. Tuberculosis can affect the eyes, the nose, larynx, pharynx etc. The common forms however include: Tuberculosis of the covering of the brain and spinal cord and Tuberculosis of the lymph glands of the neck.

Tuberculosis of the coverings of the brain and spinal cord is called the meningitis. This is common in children and apart from the disease progressing more slowly, the presentation is the same as that of other forms of meningitis. Headache, neck stiffness, poor feeding, unnecessary excessive crying are common.

Tuberculosis of the lymph glands of the neck is frequent. The glands are usually swollen, firm initially and matted together. As the disease advances, the nodes enlarge and soften. Eventually, some of them break down and create a little tunnel that communicates with the surface, leaking cheesy material. This kind of tuberculosis normally resembles tumors of lymphoid tissue like lymphomas, post-nasal space cancer etc.

● TUBERCULOSIS IN THE CHEST

Apart from the lungs and their covering pleura, tuberculosis may affect the following organs:

- The heart and its coverings. This disease presents quite like other

forms of heart disease, for example, Rheumatic heart disease, infective heart diseases, congenital heart disease and so on.

The lymph nodes in the chest. These nodes enlarge and might compress structures like nerves and blood vessels.

● OTHERS

Tuberculosis can affect the skin, presenting with nodules, the breast, causing nodular enlargement or just a lump in the breast. In bone, progressive destruction can eventually cause weakness of the bone with increased ease to fracture. If the joints are affected, more commonly in children, the presentation is commonly with progressive pain and swelling of the affected joint.

"Beware - your neighbor has tuberculosis and your painful hip could be tuberculosis".

Let me now turn to Tuberculosis of the spine. But before I give you the details of the disease, I will highlight the structure of the vertebral column (Back bone).

The vertebral column consists of several small bones called vertebrae which are separated by fibro-cartilaginous discs called intervertebral discs. These bones are joined by several ligaments. The spinal cord passes through a canal in the vertebrae and the spinal nerves through small holes between the vertebrae called intervertebral foramina (see diagram).

A diagrammatic representation of the relationship between vertebrae, intervertebral discs and the intervertebral foramina.

The vertebral column is automatically divided into a cervical part in the neck with seven vertebrae, a thoracic part in the chest region with twelve vertebrae, a lumbar region in the lower back with five vertebrae and the lowest vertebrae are fused. With this kind of background information, we can understand the effects of tuberculosis on the spine.

The disease affects mainly the thoracic and lumbar vertebrae. In fact tuberculosis of the thoracic and lumbar spines is the commonest form of bone involvement.

Tuberculosis progressively destroys the vertebrae and the intervertebral discs, most marked in the front parts. One or more bones and discs may be affected. Collapse of the vertebrae in front subsequently causes the spine to fold for-

wards with a bulge backwards. The destroyed areas may form pus which may collect and eventually show a swelling in the front parts of the chest or track downwards to present as a swelling in the loin region. Both the bone destruction and pus collection may interfere with the spinal cord and the ensuing nerves.

Presentation

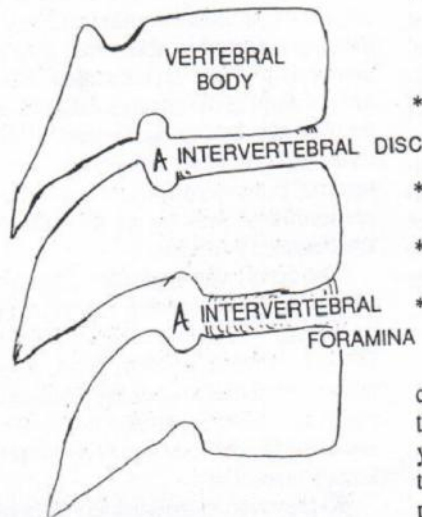
The patient will commonly have a history of lung tuberculosis or at least contact with a tuberculosis patient. The disease is common in young adults and may present with one or more of the following:

- * Pain and stiffness in the back
- * Deformity in the back, commonly forward bending called Kyphosis
- * Localised swelling in the back, chest or loin
- * Weakness of the legs which may be followed by partial and later total paralysis
- * Urinary and stool incontinence (patient loses control over urination and defecation)
- * Other features of tuberculosis such as wasting, fever, sweating, poor appetite and a general feeling of being unwell.

Although these features may resemble other causes of back pain that have been covered in a previous issue of the magazine, combined with X-ray findings, blood and skin tests, the diagnosis is usually reached easily.

Complications

Untreated, the disease could cause a chronic hole on the back, discharging



pus, permanent back deformities, total paralysis, infection of other organs like the meninges, kidneys etc. Death usually follows vital organ involvement and/or effects of paralysis..

Treatment and outcome

Treatment of spinal tuberculosis has undergone important changes in the last few years. What is important is to realise that Tuberculosis of any organ is treated in hospital in the initial stages and that the treatment regime can be prolonged. Since it is a generalised disease, treatment involves general build-up of the patient including nutritional rehabilitation and well ventilated clean environment. This is combined with use of drugs, spine rest and when and if necessary, surgery by a qualified, experienced and specialised surgeon. Such surgeons are now several in Kenya. The results of these treatment modalities are full recovery if the treatment is started early. Late treatment may leave some residual damage.

Conclusions and control

As I indicated in the previous issue, the control of tuberculosis is a task each one of us can contribute to make easy. The medical and research personnel are working day and night. Your part involves understanding that:

- * The disease is not inherited but is infectious and its spread is favoured by existence in the population of infected people who spread the infection, more easily in unhygienic overcrowded environments.
- * The role of hospital treatment is more promising than herbal medicine.
- * The disease is easy to suspect and the earlier the diagnosis is made and treatment started, the better the results.
- * Only by getting everybody free of the disease can we save all the future generations.
- * Full compliance to treatment prescribed by the doctor is a must.
- * Vaccination of all children offers healthy protection in life.
- * The disease can only be controlled if everyone participates.

Therefore improve hygiene, get all children vaccinated, see your doctor at the earliest suspicion of the disease in yourself, your family or friend and soon tuberculosis may be a disease of the past