CRYPTOCOCCOSIS (TORULOSIS) OF BONE

Report of a Case

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A man aged forty-three was admitted to hospital on June 15, 1954, having complained for about six weeks of a painful swelling on the front of the left leg. He was subject to severe headaches.

Previous history—This patient had been in hospital in August, 1951, when he complained of an increasing cough for the past few years with whitish sputum which had been blood-stained on two occasions. Three years before admission his tonsils had been removed. He had lost weight at the onset of his illness and had never regained it. There was no history of contact with tuberculosis. The reason for his admission to hospital was the development of "bronchitis." Sputum examined on several occasions showed no acid-fast bacilli, and cultures showed no growth of mycobacterium tuberculosis. The blood count was within normal limits. A radiograph was said to show extensive irregular opacities in both mid-zones, and to a less extent in both lower zones, and a translucent area in the left first anterior interspace which might represent a cavity. Laryngoscopy showed laryngitis and a stationary left vocal cord, thought to be caused by mediastinal involvement of the recurrent laryngeal nerve. A Mantoux test was weakly positive after ninety-six hours.

In spite of the lack of bacteriological proof, a diagnosis of pulmonary tuberculosis was made and treatment with streptomycin and para-aminosalicylic acid was begun. Later the patient was sent to a sanatorium for six months and was treated with "Rimifon." A psychosis developed and was thought to be due to this drug, but the patient recovered after receiving shock treatment.

Present illness—Examination showed a fluctuant, tender swelling on the antero-medial aspect of the left leg, almost an inch in diameter, with a surrounding area of erythema. The regional lymph glands were palpable. Radiographs of the left tibia showed circumscribed areas of destruction in the mid-shaft of the tibia, with a little periosteal swelling. Sarcoid, so-called osteitis tuberculosa multiplex cystoides, was postulated (Fig. 1). A radiograph of the chest showed a generalised blotchy and profuse infiltration of both lungs with prominent and dense hila. The distribution was almost "butterfly wing." Although the condition might be considered tuberculous (and cavitation in the left axillary region could be present) the appearances were very suggestive of sarcoidosis. There was evidence of old pleurisy at the
right base laterally and at the left base medially (Fig. 2). A Mantoux test was negative. The blood pressure readings were: systolic 190 millimetres of mercury; diastolic 110 millimetres of mercury. Repeated examination of the sputum showed no acid-fast bacilli in smear or culture. During his stay in hospital the patient's behaviour was occasionally irrational, and a psychiatrist reported moderate hypomania without insight and with plausibility.

On June 15, 1954, aspiration of the abscess yielded one cubic centimetre of blood-stained pus. Cryptococcus neoformans (torula histolytica) was grown from this and from succeeding specimens: smears showed polymorphonuclear pus and occasional encapsulated yeast-like bodies. No acid-fast bacilli were found in smears or in cultures on Loewenstein-Jensen medium. On July 5, 1954, the bone cyst that remained was curetted and blood-stained material containing fibrinous flakes was evacuated. Histological examination showed granulation tissue containing some torula-like fungus. Figure 3 shows a smear of this material, with encapsulated yeast-like bodies: both cells and capsules were much smaller than those usually seen in cerebrospinal fluid or in sputum. Mice inoculated with the culture developed generalised torulosis, the torulae in sections being of normal size (Fig. 4). No torula was grown from the patient's sputum, nor from the cerebrospinal fluid during his stay in hospital. He was treated with potassium iodide, twenty drops of a saturated solution being given by mouth thrice daily. A sinus with a thin discharge persisted for two months, then healed and did not recur. The leg was immobilised in plaster and a caliper fitted later. A radiograph on July 13, 1955, showed considerable reduction in the size of the cystic cavity in the left tibia. The patient was last seen on July 19, 1955. He died two years later but the cause of death is not known.

**DISCUSSION**

Conant, Smith, Baker, Callaway and Martin (1954) defined cryptococcosis as "a subacute or chronic infection caused by cryptococcus neoformans (torula histolytica) which may involve
the lungs, skin or other parts of the body but has a marked predilection for the brain and meninges.” Lesions in bone are rare. Collins (1950) reported three cases of bone involvement in cryptococcosis and collected seventeen instances of bone involvement in a review of over 200 reported cases of cryptococcosis. He noted that “the lesions, when multiple, are widely disseminated and tend to involve bony prominences. They tend to be osteolytic, exerting very little bone reaction. Any change occurred slowly and both progression and regression were observed.” Wiener (1951) described generalised torulosis with osseous invasion demonstrated by radiographs. The diagnosis was based on a microscopic study at necropsy and direct smear of the meninges. Cox and Tolhurst (1946) referred to lesions of bones, joints and other somatic tissues, stating that these were not commonly encountered in cryptococcosis.

SUMMARY
1. A case of cryptococcosis (torulosis) of bone is described.
2. The diagnosis was established by microscopical examination of pus and culture of the organism.
3. The literature is briefly reviewed.

REFERENCES
Wiener, M. F. (1951): Generalized Torulosis with Bone Involvement. Archives of Internal Medicine, 87, 713.