TUMOURAL GUMMATOUS YAWS

W. P. COCKSHOTT, IBADAN, NIGERIA
Radiologist, University College Hospital and University College, Ibadan
and
A. G. M. DAVIES, KAMPALA, UGANDA
Radiologist, Mulago Hospital, Kampala

We have seen from time to time patients showing an unusual change in bones which we attribute to a treponematose, probably yaws. As this particular type of bone lesion does not seem to be well recognised and is not described in the standard work of Hackett (1951) on the bone lesions of yaws, two examples of this process are here described, one from Nigeria and one from Uganda.

Case 1—A Yoruba tailor aged twenty-seven attended University College Hospital, Ibadan, giving a history of two years' painless swelling of the lower forearm. The swelling was firm, of normal temperature and not pulsatile. Movements of the overlying tendons were
unimpeded and the skin was mobile over the tumour. The tumour had at first increased rapidly in size but growth had been stationary for some time. A radiograph (Fig. 1) disclosed an unusual productive and destructive lesion affecting the distal third of the radius and ulna.

On the medial side of the ulna there was considerable organised fusiform accretion of periosteal new bone which was also present at the proximal end of the radial lesion. A fairly abrupt transition occurred between this zone and an area where there was no remnant of the original bony structure. The normal bony tissue had been replaced by a soft-tissue mass which contained many small lace-like fragments of bone giving rise to a bizarre mottled appearance.

Brachial arteriography showed the lesion to be displacing normal vessels by reason of its mass, but there were no new vessels and indeed the area seemed to be relatively avascular (Fig. 2). The Kahn reaction was strongly positive. A treponemal immobilisation test could not be performed. Biopsy revealed a relatively structureless material with areas of necrosis (Fig. 3). Within the almost acellular eosinophilic matrix small irregular bony trabeculae were present. A few multinucleated giant cells were evident and occasional lymphocytes. The tissue was strikingly avascular.

**Case 2**—A Lango tribesman aged twenty-five attended Mulago Hospital, Kampala, complaining of weakness of his hand and swelling of his left forearm. He gave a history of having had a generalised yaws eruption in childhood and also of vague bone pains two years previously. On examination there was a fusiform swelling of the forearm which was hard and tender on pressure. Some wasting of the small muscles of the hands was noted, and there was considerable loss of power of the grip.

Radiography disclosed marked fusiform expansion of the distal two-thirds of the radius and to a lesser extent of the ulna (Fig. 4). This was due to exuberant periosteal new bone formation combined with a lack of structure of the medulla. The same type of mottled
appearance noted in the last case was again seen. Extension of periosteal new bone in the line of the interosseous ligament was observed in the proximal part of the lesion.

Biopsy revealed a fibrous structureless matrix containing a few inflammatory cells. The bony trabeculae showed little activity. Some peri-vascular cuffing and thickening of small arteries was noted. This was considered to represent tertiary yaws osteitis.

**DISCUSSION**

Several examples of this type of process have been seen in the last two years in Ibadan. They have all been in young men with positive serological tests and no obtainable history of syphilis. The dominant lesion has always been in the upper limbs and the tumour mass appears to have a predilection for the end of a bone. One patient had multiple lesions including a periosteal dactylitis and a subcortical gumma at the upper end of the tibia in addition to a gummatous lesion of the lower end of the humerus.

The radiographic response to penicillin has been negligible in these patients, though none has reported for follow-up later than six months from the beginning of treatment.

The distinction between yaws, syphilis and endemic syphilis is not possible radiologically, and even with refinements in serological investigation, such as the treponemal immobilisation test, no absolute classifying criteria are available. A careful history and a knowledge of the local prevalence of these allied conditions is the best guide.

We consider this type of lesion to be a manifestation of gummatous tertiary yaws.

**REFERENCE**