Osteosarcoma Arising in a Solitary Osteochondroma*

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SUMMARY

A case of osteosarcoma arising in a solitary osteochondroma is reported.

S. Afr. Med. J., **45**, 810 (1971).

Osteosarcoma is an unusual complication of an osteochondroma. Very few cases have been reported.[1]

CASE REPORT

A 40-year-old Zulu woman was admitted with a history of having had a tumour on the front of the left knee for some years. This had recently increased in size. On examination there was a hard bony tumour on the anterior aspect of the left knee. This tumour measured approximately 20 cm by 8 cm by 8 cm (Fig. 1). At the apex of the tumour a soft area could be felt. The overlying skin was thin but moved freely over the tumour. No active or passive movement was possible at the knee. X-ray showed a calcified osteochondroma (Fig. 2). The chest X-ray was clear.

Permission was sought from the patient to perform an amputation should the soft area at the apex of the tumour prove to be malignant. The patient declined amputation but agreed to local removal of osteochondroma.

At operation an osteochondroma arising from the proximal end of the tibia was found. At the apex of the tumour there was an area of soft, greyish pink tissue. This measured about 3 cm by 2 cm by 2 cm.

On microscopy the bulk of the tumour showed the features of an osteochondroma (Fig. 3). The soft area at the apex of the tumour showed replacement of the trabeculae with tumour cells. Osteoid production was evident (Fig. 4). Other areas showed tumour cells only but no evidence of osteoid (Fig. 5).

*Date received: 7 April 1971.

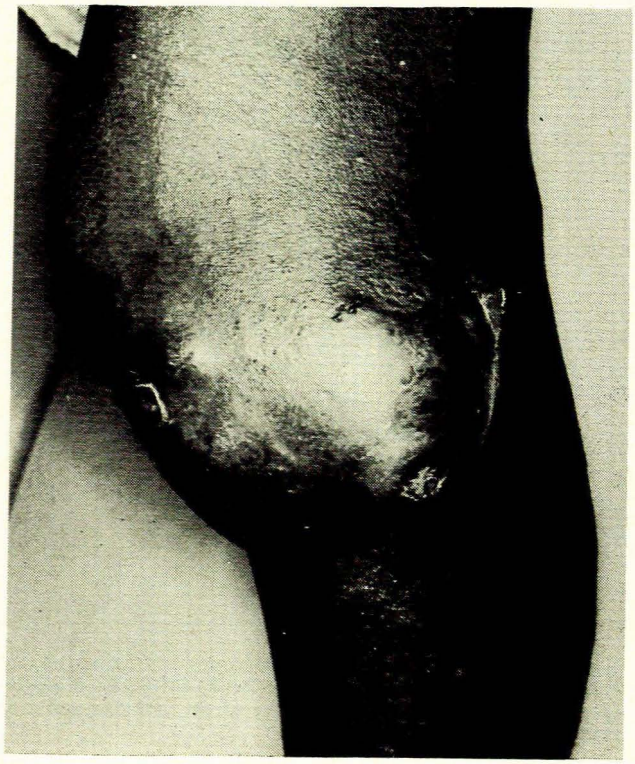

Fig. 1. Tumour on the anterior aspect of the knee. There is some desquamation of the overlying skin.

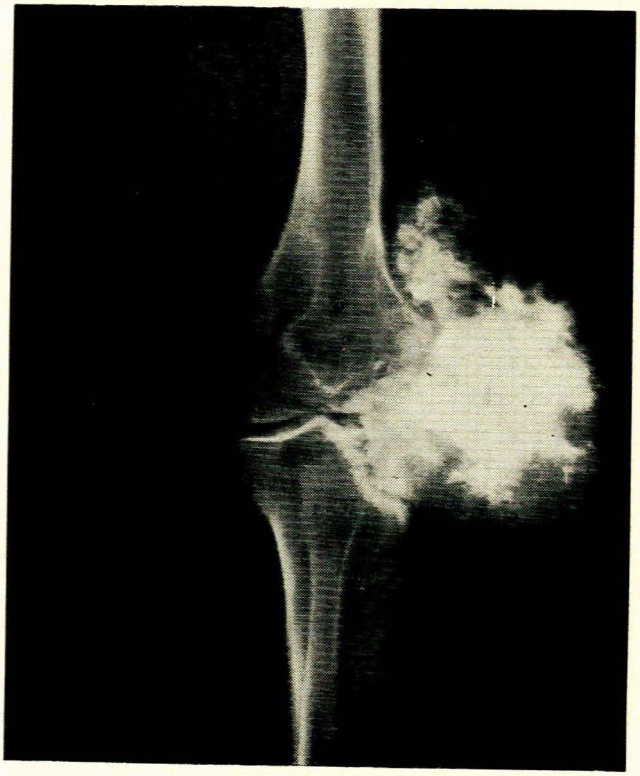

Fig. 2. X-ray of the tumour showing fairly typical features of an osteochondroma.

Fig. 3. Section of osteochondroma (× 25). Bony trabeculae with an overlying cartilagenous cap are seen.

Fig. 4. Tumour cells with a small amount of intercellular osteoid (× 400).

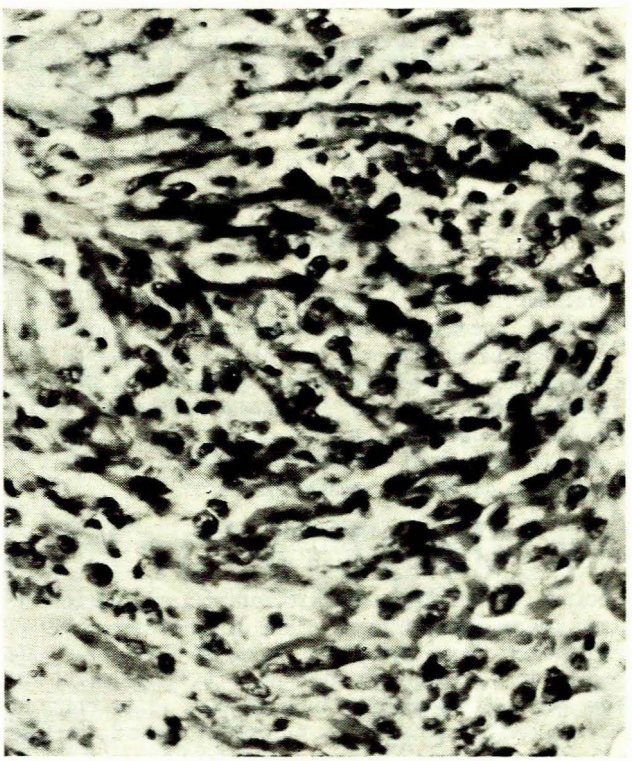

Fig. 5. Tumour cells with no evidence of intercellular osteoid (× 150).

DISCUSSION

Solitary osteochondroma is the most common benign tumour of the skeleton. Jaffe[2] stated that 1% of these tumours undergo malignant change to chondrosarcoma. Reports of osteosarcoma arising from an osteochondroma are few. Dahlin reported 2 such cases.[1] In his patients osteosarcoma arose from an osteochondroma at the distal end of the femur. The complete files of the Mayo Clinic contain only 3 such cases.[3] Anderson *et al.*[4] reported a case of a sarcoma arising from an osteochondroma of the upper tibia. There was some doubt as to the precise histology of the tumour.

Our patient is similar to the patient reported by Anderson *et al.*[4] in that there was some doubt initially about the presence of osteoid. Careful examination, however, confirmed the presence of osteoid in the tumour. Chondromucin was also present.

We wish to thank Dr D. C. Dahlin of the Mayo Clinic who kindly reviewed the X-rays and histology slides; Mr J. Osmond, Head of Department of Orthopaedics, and Dr H. R. J. Wannenburg for permission to publish the case report; Mr R. Stuart for the photographs and Mrs D. Hyman for the secretarial help.

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