INTRAOSSEOUS GLOMUS TUMOURS
Report of Two Cases

D. H. MACKENZIE, LONDON, ENGLAND

From the Westminster Hospital, London

Glomus tumours are well recognised and well documented lesions which usually present as painful dermal nodules in the fingers. The neuromyoarterial glomeruli were described by Masson (1924). Subsequent work by Murray and Stout (1942) showed by tissue culture that the characteristic glomus cells are morphologically identical with the pericytes of Zimmerman, modified smooth muscle elements found in the walls of blood vessels. In short, a glomus tumour is a variety of benign haemangiopericytoma, and its origin from pericytes explains the occasional appearance of such a tumour in unlikely sites such as the stomach (Kay, Callahan, Murray, Randall and Stout 1951). Tumours featuring pericytes have been discussed by Stout (1956) and the orthopaedic manifestations of malignant haemangiopericytoma have also been described by Kennedy and Fisher (1960).

Bone changes visible in radiographs and due to glomus tumours have been described by Rypins (1941), Mathis and Schulz (1948), Lehman and Kraissl (1949), Riveros and Codas (1951), Harris (1954), and Jaffe (1958). Very rarely the tumour appears to have originated within the bone (Iglesias de la Torre, Gomez Camajo and Palacios 1939; Lattes and Bull 1948). It must be stressed that it may sometimes be very difficult to decide the exact origin of a glomus tumour affecting bone. Nevertheless it is important to remember that a glomus tumour may present as an intraosseous lesion, particularly from the radiological point of view, whether it has arisen within the bone or not.

CASE REPORTS

Case 1—A woman of thirty complained of great pain in the terminal phalanx of the little finger of the left hand. Two years previously she had had an extremely painful nodule removed
FIG. 3
Case 1—Glomus tumour showing almost complete bony encirclement. (Haematoxylin and eosin, × 35.)

FIG. 4
Case 1—Extraosseous subungual focus of tumour. (Haematoxylin and eosin, × 60.)
from the tip of the same finger. This had been shown histologically to be a glomus tumour. There is no record of any radiographs having been taken at that time. On examination there was some induration of the tissues related to the first operation site, and radiographs showed a circular cystic area in the terminal phalanx, apparently entirely surrounded by bone (Fig. 1). At operation the terminal phalanx was amputated and the patient made an uneventful recovery. On bisection of the specimen a small soft pink lesion about a millimetre in diameter was seen within the distal part of the phalanx.

Histologically the specimen showed well defined vascular spaces surrounded by the epithelioid cells characteristic of a glomus tumour (Fig. 2). Many sections were examined but none showed complete osseous encirclement of the tumour (Fig. 3). There was in addition a small focus of extraosseous growth beneath the nail (Fig. 4).

**Case 2**—A woman of sixty-one complained of pain in the left thumb of several years’ duration. On examination the medial side of the left thumb was exquisitely tender close to the nail fold, and there was slight discolouration of the skin in the same area. Radiographs showed erosion of the terminal phalanx (Fig. 5). The diagnosis of a glomus tumour was suggested and the tender area of the thumb was excised. About two months later the patient complained that the pain and tenderness had continued. At a second operation a gelatinous substance was found occupying the lateral half of the tuft of the terminal phalanx. This was excised. Histological examination confirmed the presence of a glomus tumour (Fig. 6). This operation relieved the patient’s symptoms apart from slight residual tenderness. She remained well while under observation for two years.
INTRAOSSEOUS GLOMUS TUMOURS

DISCUSSION

Intraosseous glomus tumours involve the terminal phalanges. Presumably they arise either from normal glomeruli which are occasionally present in terminal phalanges (Jaffe 1958) or from pericytes in the walls of blood vessels. Their presenting symptom, as with glomus tumours generally, is pain. Radiologically they may appear as small cysts in a terminal phalanx or as an erosion of the bone. Lesions due to enchondromata, neurofibromata, haemangiomas, osteomyelitis, simple cysts and sarcoidosis have been named as entering into the differential diagnosis. The radiological appearances together with the history of extreme pain should suggest the diagnosis.

In the present cases it is difficult to determine the precise origin of the tumour. In Case 1 the appearance of the bulk of the tumour in the terminal phalanx with a small subungual extension is certainly consistent with a true intraosseous origin, but the lack of detail regarding the first operation introduces an element of doubt. In Case 2 the absence of tumour in the specimen excised at the first operation suggests a true intraosseous origin. From the clinical point of view both these tumours were intraosseous neoplasms.

SUMMARY

Two cases of intraosseous glomus tumour of a terminal phalanx are described and the literature is reviewed.

I am greatly indebted to Professor Roland Barnes for permission to study Case 2. I am also indebted to the Department of Medical Photography, Westminster Hospital Medical School.

REFERENCES


