GIANT CHONDROMAS ARISING FROM THE RIBS

A REPORT OF FOUR CASES

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Chondromas may arise from the ribs but seldom grow to giant size. In a series of twenty-one cases, four giant tumours were encountered. Three were treated by excision without leaving a significant defect of the chest wall or impairment of respiration; the fourth was examined by biopsy. No evidence of malignant change was discovered in these four large tumours.

Giant osteochondromas have been reported to arise from the patella (Louis, Pouye, Conty, Quênum and Ouiminga 1968), from the upper jaw (Ozinkovskii and Voloshchuk 1971) and from the second rib (Pandey 1971), and a giant chondroma from the laryngo-tracheal region (Grimaud and Werner 1965). A huge malignant chondroma of the rib has been reported (Knysh and Korolev 1972). In our experience of twenty-one chondromas arising from ribs, four had grown to giant size but were still benign.

CASE REPORTS

Case 1—A man aged forty-seven attended in September 1968 with a hard tender swelling in the right mammary region (Figs. 1 and 2). At operation the mass was found to arise from the fifth rib. It was closely adherent to the pleura and extended more into the chest than outwards. The tumour was excised entire and weighed 2·5 kilograms. There was little difficulty in closure of the defects in pleura and chest wall. After the operation the patient had partial collapse of the lung, which re-expanded in about three weeks. The histology was typical of chondroma.

Case 2—in May 1969 a woman aged fifty presented with a huge, painless swelling on the right upper chest that had gradually increased in size over a period of twenty-five years (Fig. 3) (Pandey 1971). The mass was hard and nodular, measured 40 by 30 by 15 centimetres, and occupied the upper three-fifths of the right thorax. Radiographs supported the clinical diagnosis of chondroma (Fig. 4). At operation the mass was excised from the second rib along with the redundant normal skin. The defect in the pleura was repaired by mobilising fascia and muscle; the incision was closed with some difficulty. Negative pressure drainage was instituted. The patient had respiratory distress for three days but then recovered uneventfully. The tumour weighed 11·5 kilograms. It had the distinctive appearance of a chondroma and histological examination confirmed this.

Case 3—in June 1970 a man aged fifty-seven presented with a growth on the left lower chest that had slowly enlarged over the last thirty years (Fig. 5). Rather unwillingly he had been persuaded by the missionaries to come for treatment. Clinical examination revealed a firm, nodular, painless
Case 2. Figure 3—A clinical photograph of the giant chondroma arising from the right second rib. Figure 4—An oblique radiograph of the chest showing the huge irregularly calcified mass protruding from the chest wall.

Case 3. Figure 5—A photograph showing the growth arising from left tenth rib. Figure 6—A microphotograph showing groups of proliferating benign cartilage cells interspersed with hyaline material. Connective tissue fibres divide the cartilage cells into groups of varying size. (Haematoxylin and eosin, ×160.)

growth arising from the tenth rib and measuring 26 by 17 by 12 centimetres. A radiograph showed a calcified mass occupying the lower part of the left chest, and a barium enema revealed intrusion of the growth into the left upper quadrant of the abdomen. With persuasion the patient agreed to a biopsy, which confirmed the diagnosis of chondroma (Fig. 6). He refused excision of the growth.

Case 4—In October 1972 a man aged forty-six presented with a huge tumour on his left chest which began twenty-three years previously (Fig. 7). He had paid little attention to it until the increasing weight made him anxious, so much so that in 1971 he himself attempted to axe out the growth, causing a wound which healed in due course. On clinical examination the swelling was firm, nodular and painless. It was attached to the fourth rib and measured 35 by 25 by 20 centimetres. The skin was free except at the site of the scar. A clinical diagnosis of chondroma was made. A radiograph showed calcified areas throughout the growth, which almost filled the left side of the chest (Fig. 8). The tumour and redundant skin were excised, together with a segment of the fourth rib, leaving a defect in the pleura which was repaired by mobilising the local muscle and fascia. Suction drainage was applied and the post-operative course was uneventful (Fig. 9). The weight of the tumour was 9·6 kilograms; histological examination confirmed that it was a chondroma (Fig. 10). The patient went back to his work as a cultivator and labourer after six weeks.
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Case 4. Figure 7—A photograph showing the nodular mass protruding from the chest wall. Figure 8—An antero-posterior radiograph showing the calcified mass occupying almost the whole of the left chest.

Case 4. Figure 9—A photograph taken on the twentieth day after operation showing the incision well healed and the tumour attached to a segment of the fourth rib. Figure 10—A microphotograph showing groups of cartilage cells separated by connective tissue and hyaline material. (Haematoxylin and eosin, × 160.)

Discussion

There is nothing rare about a chondroma arising from a rib, but that such a growth can become so large and yet remain benign is interesting. The perusal of different case histories indicates a very slow rate of growth. Though giant in size, careful histological scanning could not reveal any evidence of malignancy in these four cases. In the

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follow-up of our series of twenty-one cases over periods of three to five years, one patient has died but not from any complication or trouble related to the previous growth, one has been lost to follow-up and the remaining nineteen have shown no sign of recurrence.

Tracing the series from a small growth in a boy aged twelve years to the most voluminous one in an elderly subject, one may presume that if the smaller ones had been left without surgical treatment many such large chondromas would have developed. But all the patients presenting with massive chondromas were aboriginal people from the Chotanaagpur plateau of Bihar State, with very little faith in modern methods of treatment. They still believe in witchcraft and accept a growth as an expression of God’s wrath. It was quite accidental that they were persuaded to come for treatment by mobile missionary units.

There is little difficulty in removing a small chondroma, and experience of large ones indicates that though apparently formidable, total excision need not leave any deficiency in the protective function of the chest wall or in the dynamics of respiration. Parietal deficiencies can always be reconstructed. Thus Saubier, Chalencon, Partensky and Brault (1972) reported parietal reconstruction with a silastic prosthesis after resection of a giant chondrosarcoma of the chest wall, and a giant chondromyxoid fibroma of the sternum has been treated by resection of the entire sternum and replacement with acrylic resin (Alonso-Lej and de Linera 1971).

Early radical excision should of course be undertaken whenever possible, but the surgeon should be prepared to reconstruct the defect in the chest wall left by resection of a tumour of massive proportions.

I am grateful to the editor of International Surgery for permission to include Case 2 in this report.

REFERENCES