SPONTANEOUS HEALING OF ANEURYSMAL BONE CYSTS

A REPORT OF TWO CASES

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Two cases of aneurysmal bone cyst in the pelvis which healed spontaneously are described. Spontaneous regression of aneurysmal bone cysts has not previously been well documented. Our experience with these two cases suggests that radical intervention is not always necessary.

There have been few reports, particularly in recent years, of the natural history of aneurysmal bone cysts. In 1959 Godfrey and Gresham suggested that spontaneous regression might occur by thrombosis and fibrosis, and they referred to three cases where aneurysmal bone cysts regressed spontaneously in middle-aged and elderly patients. Barnes (1956) felt that many aneurysmal bone cysts had an inherent tendency to regress spontaneously but he did not document any cases. Campanacci *et al.* (1976) claimed no experience of prolonged observation of the untreated condition, but noted that all aneurysmal bone cysts eventually healed. Several other authors have noted the tendency of aneurysmal bone cysts to regress spontaneously but these cases have never been well documented. We describe two cases where spontaneous regression has taken place.

CASE REPORTS

Case 1. A boy aged 10 years and 5 months presented with a one-month history of pain in the right groin which he first noticed after a football injury. Initially, he felt pain only when walking and running, but gradually the pain became more severe and was present even at rest. Examination revealed no swelling in the groin but movements of the right hip were extremely limited. On rectal examination a smooth bone-hard mass could be palpated anteriorly and to the right. Radiological examination at first attendance showed an expanding destructive lesion of the right superior pubic ramus (Fig. 1). A biopsy was carried out and the histology suggested a giant-cell tumour. Over the next two months the tumour increased in size both clinically and radio-

logically (Fig. 2). Because of this a further biopsy was carried out and a large haemorrhagic cavity was found. The histological features were those of an aneurysmal bone cyst (Fig. 3).

Over the next five years the patient was observed, but no treatment was instituted. Initially, there was a slight increase in the size of the tumour but after six months no further enlargement occurred. Radiographs taken two years after the original diagnosis showed that the tumour had apparently healed (Fig. 4).

Case 2. A boy aged 11 years presented after a fall; he complained of pain in the right groin. Radiographs showed a cystic lesion in the right superior pubic ramus and a pathological fracture (Fig. 5). A biopsy was carried out and the histological features were those of an aneurysmal bone cyst (Fig. 6). No treatment was instituted. Over the next five months radiographs showed that the tumour was increasing in size (Fig. 7), but also revealed signs of early healing. Three years after diagnosis healing was virtually complete (Fig. 8).

DISCUSSION

These two cases suggest that aneurysmal bone cysts can heal spontaneously. It is possible that surgical intervention, amounting in both these cases to simple biopsy, may have influenced the healing process. However, it is noteworthy that in both cases radiographs showed that the tumours had increased in size before there were any signs of regression.

Several methods of treatment have been advocated for aneurysmal bone cysts. In many reported series there is a significant recurrence rate for those treated by curettage, with or without bone grafting and radiotherapy (Sherman and Soong 1957; Godfrey and Gresham 1959; Clough and Price 1973). Radiotherapy alone has also been used; however, in a benign condition which has a tendency to regress spontaneously it seems difficult to justify the use of a method which has been shown to be potentially carcinogenic (Lichtenstein 1953; Godfrey and Gresham 1959). Resection *en bloc* seems to have the highest success rates (Clough and Price 1973;

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Fig. 1

Fig. 2

Fig. 3

Fig. 4

Case 1. Figure 1—Anteroposterior radiograph of the pelvis at presentation showing a cystic lesion of the right superior pubic ramus. Figure 2—Radiograph two months after biopsy showing the increased size of the cyst. Figure 3—Section from biopsy of the affected area showing the histological features of aneurysmal bone cyst (haematoxylin and eosin, $\times 85$). Figure 4—Two years after diagnosis the cyst looks healed.

Fig. 5

Fig. 6

Fig. 7

Fig. 8

Case 2. Figure 5—Anteroposterior radiograph of the pelvis showing an aneurysmal bone cyst in the right superior pubic ramus and a pathological fracture. Figure 6—Section from biopsy showing histological features which are consistent with an aneurysmal bone cyst (haematoxylin and eosin, $\times 100$). Figure 7—Anteroposterior radiograph five months after biopsy showing the increased size of the cyst. Figure 8—Three years after diagnosis the cyst looks healed.

Koskinen *et al.* 1976). Some resections are very radical procedures and must incur considerable risk to the patient (Koskinen *et al.* 1976). The knowledge that these lesions can heal spontaneously makes assessment of the benefits of any form of therapy difficult.

It is interesting to speculate on the nature of the healing mechanism. It seems likely that thrombosis and fibrosis play a leading part, as suggested by Godfrey and Gresham (1959). If this is so, then therapeutic embolisation would seem to be a logical means of starting the healing process. Transcatheter embolisation of an ischial

aneurysmal bone cyst has recently been described by Murphy, Strecker and Schoenecker (1982) with an end-result similar to that in our two cases.

Experience of our two cases which healed spontaneously, suggests that when this tumour is diagnosed in a situation which does not threaten mechanical or functional failure, it may be sufficient merely to observe progress in the hope of natural healing.

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