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ABSTRACTS – POSTERS

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What happens to carbonated apatite cement used in the treatment of benign and low-grade malignant tumours of bone? Does it ever reabsorb?

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Objectives

The intralesional curettage of low-grade malignant or benign bone tumours leaves a defect in the bone which may be larger than the original tumour. Surgeons may elect to fill the resulting defect with a number of substances. This study reviews the use of carbonated apatite cement in this situation.

Methods

17 patients with contained bone defects filled with carbonated apatite cement following resection of benign or low-grade malignant tumours between June 2001 and November 2003 were reviewed. The diagnosis was giant cell tumour (GCT) in 9, fibrous dysplasia in 2, low-grade chondrosarcoma in 2 patients, and one case each of enchondroma, chondromyxoid fibroma, osteo-fibrous dysplasia and chondroblastoma.

Results

Average follow up was 54 months. There was 1 case of early fracture following treatment of a GCT, 1 case of late fracture following treatment for fibrous dysplasia, 2 cases of periostitis and 3 cases of GCT recurrence. The cement incorporated well into bone, but showed little evidence of reabsorption, even after 6.5 years. However, in cases of GCT recurrence, the carbonated apatite cement was rapidly reabsorbed over a period of a few weeks.

Conclusions

Carbonated apatite cement represents a realistic, effective alternative in the treatment of contained defects following excision of benign and low-grade malignant tumours of bone. However, caution is advised where contact between the material and soft tissues is unavoidable as periostitis may occur, and in the treatment of giant cell tumours where the material may be reabsorbed if local recurrence occurs.