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Chondrosarcoma of the hands and feet: When to worry?

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Background

Chondrosarcoma of the small bones in the hands and feet are extremely rare. In contrast, enchondromas are common benign lesions. Differentiating between the two can be extremely challenging. Enchondromas of the hands or feet are often not treated in specialist centres, therefore the question is, when should the surgeon worry about malignant conversion? Although metastases are relatively rare in chondrosarcomas of the hands and feet, local recurrence is common. Local recurrence can be aggressive, often ungrading from the previous tumour grade.

Methods

Our database contains information on 3657 primary bone tumours treated since 1971, of these, 804 had primary chondrosarcomas. A retrospective review was taken of the 69 patients identified with chondrosarcoma of the small bones of the hands or feet (9%). During the same period 101 patients were identified with benign enchondroma of the hands or feet. A prospectively updated database, patient notes and radiology reports were reviewed for demographic details, surgery, complications, local recurrence and survival.

Results

Of the 69 patients, 23 (33%) chondrosarcomas were in the feet, with 46 (66%) being in the hands. 8 patients had known multiple enchondromas (4 patients with Olliers, 4 patients with Maffucci syndrome).

At presentation, 31 (46%) patients had grade 1 chondrosarcoma, 32 (48%) grade 2, 2 (3%) with grade 3 and one dedifferentiated chondrosaroma. 8 patients developed a local recurrence at a mean of 32 months (range 2-110 months), with the initial grade being grade 2 in the majority (n=8/9, one patient grade 1). 4 patients developed metastases at a mean of 78 months (range 2-250) all occurring in higher grade tumours.

There was evidence of a previous enchondroma in 52% of patients prior to presentation, suggesting malignant conversion. Most patients had radiology suggesting an aggressive process with features of cortical breech, soft tissue mass or endosteal scalloping.

Conclusion

Chondrosarcoma of the hand and feet remain rare. Patients often had previous treatment for enchondromas and aggressive radiological features. Surgeons should be wary of these features and refer to a tertiary referral bone unit for biopsy if they are present.

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