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Tumours of the radius

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Introduction

The radius is an uncommon site for bone tumours. Treatment of lesions of the radius can thus pose challenges to surgeons due to the lack of experience that results from their rarity. The treatment chosen is still important, however, because of the impact it has on the function of the upper limb as a whole.

The aim of this project was to describe the prevalence of different oncological and non-oncological lesions of the radius and describe the different surgical options that were used in their treatment.

Patients and methods

A retrospective search was performed of a prospectively collected database at a tertiary referral centre. Information was obtained on 202 consecutive patients (104 males, 98 females) that were referred for investigation of radial lesions over a 31-year period. Information was collated on demographics, diagnoses, location, treatment and outcome. Patients of all ages were included (Age range 3 months to 84 years; mean age 33.4 years). Patients were excluded if they were not treated at this unit. One hundred and thirty three patients were followed up (follow up range: 1- 276 months; mean 50.7 months), the rest either being followed up locally or deemed not to require follow up.

Results

One hundred and ninety two patients met all the inclusion criteria (101 males and 83 females). Most lesions were found to be located distally (n=136), proximally (n=41) and then middle (n=16). The whole radius was involved with Ewings sarcoma in only one instance.

Most lesions were benign (n=89) with the rest spread between malignant (n=52) and other non-oncological conditions (n=51). Giant cell tumours (GCT; n=40), simple (n=6) and aneurismal bone cysts (n=11) made up the majority of the benign group. Osteosarcoma, Chondrosarcoma and Ewing's sarcoma were evenly represented amongst the malignant bone lesions but metastatic lesions were most common (n=19). Infection was the most common non-oncological diagnosis.

Surgical treatment options

One hundred and forty procedures were performed on the radius ranging from curettage to distal radial endo-prosthetic replacements. GCTs and benign tumours were mainly treated by curettage with or without cement (n=78). Excision of tumour was commonly used for benign lesions and metastatic disease. More extensive surgery such as endo-prosthetic replacements and fibula strut grafts were mainly reserved for primary bone tumours although not exclusively. Two cases of large GCTs required amputation. Metastatic disease appeared to specifically be treated by palliation, amputation or internal fixation.

Conclusion

It is apparent from our results that a wide variety of procedures are utilised for the treatment of radial lesions, some of which are complex reconstructive procedures. This highlights the importance of their treatment at centres that have the appropriate skills to deal with them.