

**FC-127****Follow-up of untreated chondroid lesions in the long bones****I. van der Geest**, C. Deckers, B. Schreuder*Radboud University Medical Centre, Nijmegen, The Netherlands*

Introduction: Enchondroma and atypical cartilaginous tumours are common bone tumors. The true incidence of enchondroma and ACT is unknown, since most enchondromas and ACT are asymptomatic. About half the cases in long bones are incidental findings, found when radiographic studies are performed for other reasons. To radiologically distinguish enchondroma from atypical cartilaginous tumors is sometimes difficult. Size more than 5 cm, endosteal scalloping and soft tissue expansion are indicators of ACT or chondrosarcoma grade 2/3. Enchondromas are benign lesions that do not need surgical treatment if inactive and symptomless. ACT almost never metastasize and are therefore now considered a locally aggressive neoplasm rather than a malignant sarcoma. In case of conservative treatment, follow-up frequency and duration are unclear. The risk of malignant degeneration of enchondroma/ACT is estimated to be 4%. The aim of the present study is to evaluate the course of follow-up of untreated enchondroma and ACT in the long bones.

Patients and Methods: For this study we reviewed all patients diagnosed with enchondroma or ACT from our pathology database diagnosed between 2008 and 2012. Patients who had only undergone biopsy, but no surgical treatment of the tumor, were included. Besides these patients, all patients with enchondroma or ACT based on the radiologic findings without previous biopsy or surgical treatment were included too. Exclusion criteria were age under 18 years, lesions in other than long bones, Ollier or Maffucci disease, and follow-up less than 24 months. Patients with the conservative treatment were followed according to a standard protocol of radiograph or MRI scan 6 months after first diagnosis and further follow up annually by radiograph or MRI scan and clinical examination.

Results: A total of 38 patients were included in this study so far. 12 of the included patients had a biopsy that showed enchondroma and 26 patients were diagnosed with enchondroma/ACT based on the radiological findings. 13 of the 38 cases (34%) that had follow-up of the tumor only received surgical treatment during follow up. The reasons for this surgery were radiologic growth of the lesion in 5 cases, patient request in 4 cases, pain in 2 cases, TKA due to arthrosis combined with curettage of the lesion in one case and the development of a benign soft tissue lesion requiring surgery in the same limb in one patient. Surgical treatment was requested by 3 out of 26 patients without biopsy and by 1 out of 12 patients with previous biopsy.

Conclusion: In this small series of conservatively treated enchondroma and ACT, 34% of patients had surgeries of the lesion after all during follow-up. Radiologic growth of the lesion was seen in 13% of the patients during a follow-up period of at least 24 month. Those patients who did not have a biopsy more often requested surgery for the lesion than those who had pathological confirmation of the diagnosis enchondroma. Annual follow-up of the lesions is mandatory to follow the natural course of the lesions.