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Tumors of the foot: epidemiologic analysis and principles of treatment: the Rizzoli Institute experience

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Background:Tumors of the foot are rare. Although most of these are benign, a failure to appreciate their presence may delay diagnosis and treatment. The knowledge of differential diagnosis and an appropriate preoperative planning are the most important factors for adequate treatment.
Aim of this study was to evaluate the incidence, histologic features and treatment strategy of the most common tumors of the foot.
Methods: From 1900 to 2009, 1.170 tumors of the foot were retrospectively analyzed. Imaging included radiographs in all patients, and CT and MRI when available. Diagnosis was established in all cases with biopsy and histologic slides were reviewed. There were 189 and 981 soft tissue and bone lesions, respectively. Localizations were phalanges (240;20%), metatarsal region (245;21%) and hindfoot (685;59%). Benign or pseudotumoral lesions were 870 (74%): multiple chondromas (168),osteoid osteoma (164),solitary osteochondroma (47),Nora disease (78), calcaneal cyst (51), aneurysmal bone cyst (45) were the most frequent lesions observed. Malignant lesions were 300 (26 %): Ewing€™s sarcoma (44), central chondrosarcomas (29) ,metastatic carcinoma (24) and other more rare entities.
Results: Benign and pseudotumoral lesions are generally treated with curettage with and without bone grafting. Neoadjuvant and adjuvant chemotherapy associated with surgery, is required for responsive malignant lesions. Amputation may be required for tumors involving the hindfoot.
Conclusions: Malignant tumors are relatively rare, but a high level of attention on imaging and clinical examination is required, even when diagnosis seems straightforward. With few exceptions, a biopsy is recommended before proceeding to surgery.

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