

Osteochondroma

The solitary osteochondroma or exostosis is one of the most common benign bone tumors seen in the skeleton. As with the enchondroma, this condition is developmental, or hamartomatous, in nature arising from the outer edge of the growth plate and growing down the metaphyseal side where it tends to point away from the adjacent joint. Because it originates from the growth plate, it continues to grow during the growing years of the patient and then stops at maturity. It is made up of a bony base with a pedunculated stock. Fatty marrow extends up inside the stock that has a cartilaginous cap giving it the appearance of a cauliflower. Histologically, if a biopsy is performed during the growing years, the cap has features of a normal growth plate. Most of these lesions arise from large bones, especially about the knee joint, proximal femur, and proximal humerus. In the proximal humerus, the osteochondroma is usually sessile-based without a typical pedunculated stock and is frequently misdiagnosed for that reason. Multiple hereditary exostosis presents with multiple lesions throughout the skeletal system and is considered to be an autosomal dominant disorder, being one-tenth as common as the solitary osteochondroma which is not inherited.

The conversion of a solitary osteochondroma to a chondrosarcoma can only occur in the adult. It is an extremely rare event compared to the one per cent chance of a malignant conversion in multiple hereditary exostosis. It is the cartilaginous cap that converts into a low-grade secondary type of peripheral chondrosarcoma with an excellent prognosis for survival compared to central chondrosarcoma. These malignant conversions usually arise from large osteochondromata seen in more proximal locations, such as around the hip or pelvis. Because osteochondromata are usually asymptomatic, surgical treatment is frequently unnecessary unless the lesions create mechanical problems such as around the knee joint where larger lesions can interfere with normal ambulation. Sometimes, a large proximal lesion with a cartilage cap exceeding 2 cm should be prophylactically resected in order to avoid a possible chondrosarcoma. When removing an osteochondroma, it is necessary to remove only the complete cartilaginous cap, leaving most of the base intact to avoid pathological fracture.