

Periosteal Chondroma

The periosteal chondroma is the same basic pathology as the enchondroma except that it presents on the surface of a tubular bone. It can occur as a hamartomatous process in growing patients but as with the enchondroma it is usually asymptomatic and growth stops at bone maturity. The lesions are found in large bones, such as the humerus and femur, and in the small bones of the hand and foot. Radiographically, slight erosion into the adjacent cortex will be seen but the lesion will not penetrate into the medullary canal. A sclerotic response at the base extends around the periphery of the lesion taking on the appearance of a blister on the surface of the bone with matrix calcification seen mainly at the periphery but also found in the central area. The lesions usually stop growing before they reach the upper limit of 3-4 cm in diameter. If growth continues beyond this, one must strongly consider the possibility of a peripheral surface-type chondrosarcoma that would continue to grow after bone maturity.

Periosteal sarcoma is a similar chondroid lesion found typically in large bones. It demonstrates a more aggressive pattern, permeation into surrounding cortical structures and a more aggressive histology with some osteoid formation. Osteochondroma also has a similar appearance but would demonstrate a more mature bony base on which a cap of cartilage is typically seen. In the case of the periosteal chondroma, the cartilage extends down into the depths of the tumor.

Treatment consists of a simple surgical resection without disturbing the subadjacent cortex so that bone grafting or internal fixation devices are not necessary. The recurrence rate is very low after maturity.