

Primary Central Chondrosarcoma

The primary or central conventional chondrosarcoma is a low-grade but malignant cartilaginous tumor found typically in adults between the ages of 30 and 60 years. The tumor arises from the medullary canal of a large bone such as the pelvis, femur, tibia or proximal humerus. Because the tumor is slow growing, there is little symptomatology and the tumor can become quite sizable before a physician is consulted. Primary chondrosarcoma is extremely rare in small bones in the hand and foot. The metaphyseal portion of a long bone is the most common location although diaphyseal locations are not unusual. Eighty-five per cent of central chondrosarcomas are low-grade lesions that on radiographic examination demonstrate matrix calcification similar to that seen in benign enchondromas. High-grade chondrosarcomas are rare, frequently noncalcified and take on a more permeative appearance similar to other high-grade sarcomas such as fibrosarcoma and Ewing's sarcoma. Histologically, the low-grade central chondrosarcoma has a fairly well differentiated chondroid matrix like that of an enchondroma but shows evidence of permeative invasion into the adjacent cortical and cancellous structures. There is rarely any mitotic activity in the low-grade lesion; it has a larger nuclear pattern with a higher degree of atypicism than the benign enchondroma.

This low-grade tumor has a low metastatic incidence to the lung but must be treated aggressively with a wide surgical resection in order to prevent local recurrence. Local radiation therapy and systemic chemotherapy are not indicated because these low-grade lesions are notoriously resistant to adjuvant therapy.