Chapter 13
Periosteal Chondroma

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Definition: Benign cartilage neoplasm originating at the surface of the bone.

Rather rare, it is usually observed in children or young adults. It prefers the metaphyses of the long bones, particularly the proximal humerus. It is usually slightly to moderately painful because of nociception by the periosteum and commonly causes some swelling. Imaging shows a superficial erosion of the bone cortex, at times slightly scalloped, with regular borders. Such erosion is caused by a hemispherical periosteal cartilaginous mass, usually of small to moderate size. In the larger chondromas, tumor often contains granular or pop-corn densities.

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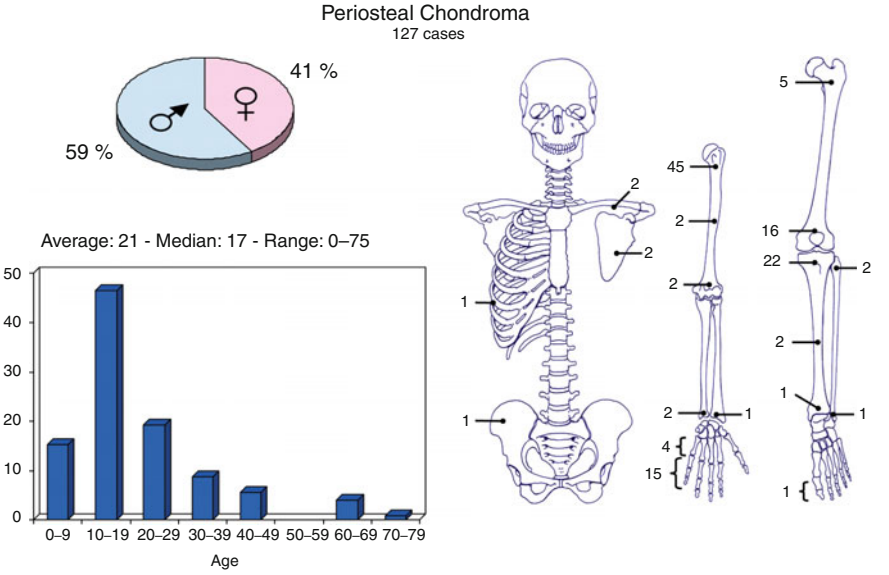
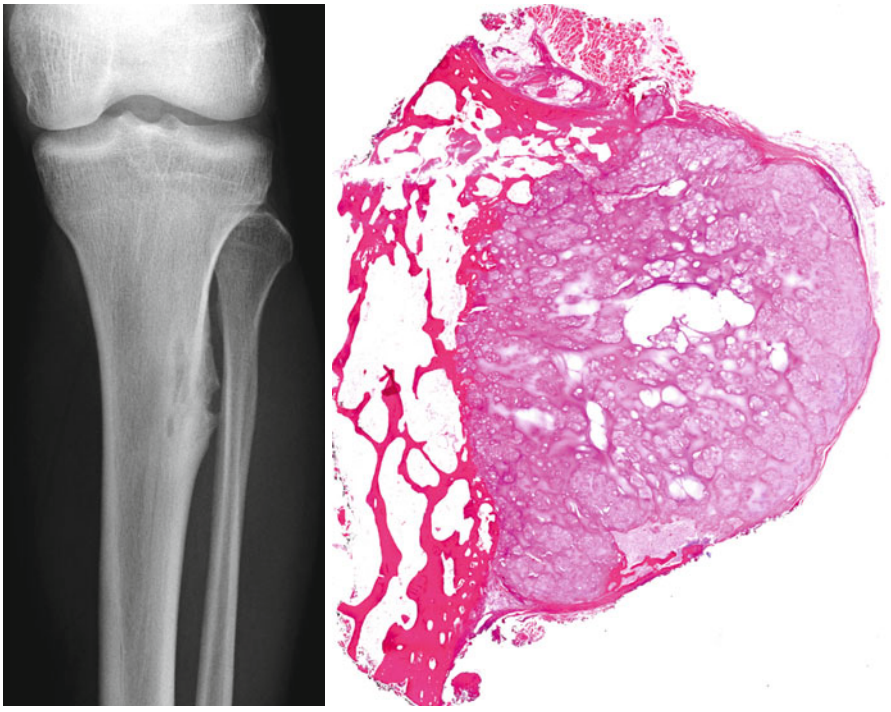
P. Picci et al. (eds.), *Atlas of Musculoskeletal Tumors and Tumorlike Lesions*,
DOI 10.1007/978-3-319-01748-8_13,



Histologically the tumor is very similar to enchondroma, but it more frequently displays features of cell proliferation (high cellularity, nuclear plumpness, and frequent double-nucleated cells). Being somewhat painful and causing some swelling in most instances, it usually requires surgical management consisting of either en bloc marginal excision or thorough curettage, equally effective.

Key Points

Clinical	Some pain, young patients
Radiological	Subperiosteal, metaphyseal, with erosion of the cortex, granular calcifications
Histological	Lobules of benign cartilage. Possible hypercellularity
Differential diagnosis	Periosteal chondrosarcoma



Male, 22 years old. Small (less than 3 cm) well-circumscribed lobulated lesion composed of hyaline cartilage. The lesion is beneath the periosteum with a sharp margin with the underlying cortex. The chondrocytes frequently are enlarged and hyperchromatic with increased cellularity and variability in nuclear size and shape. Out of context, these features suggest the diagnosis of chondrosarcoma

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