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MR Imaging of the Knee: Incidental Osseous Lesions

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The knee remains one of the most commonly imaged articulations. Consequently, tumor or tumor-like lesions are not uncommon incidental findings. Unlike patients who present specifically for the evaluation of a mass, individuals who have incidentally identified lesions are often incompletely studied and, as a result, frequently present a diagnostic dilemma. Many of these incidentally identified lesions are benign. When a definitive diagnosis can be made, additional clinical imaging and work-up, with their associated costs, may be avoided.

These incidental lesions are often not resected or investigated by biopsy; hence, it is impossible accurately to determine their character or prevalence. Incidental lesions may be defined as those that are minor and relatively unimportant. In MR imaging of the knee, incidental findings are those that have no direct relationship to the patient's symptoms. This is not to suggest that these lesions have no significance; depending on the specific diagnosis of the incidental finding, follow-up may be required.

One cannot determine with certainty the prevalence of incidentally identified osseous lesions. The lack of histologic conformation in the overwhelming majority of cases opens any review of this subject to considerable observer bias. With this caveat in mind, in this article the authors present the incidental osseous lesions that they have encountered most frequently in their personal and consultative experience during MR imaging of the knee.

This article is intended not as a complete review of the imaging findings associated with these lesions but as a summary, highlighting the MR imaging features that are most useful in suggesting a specific diagnosis.

Radiographs

Despite advances in MR imaging, the radiograph remains invaluable in evaluating bone lesions and in many cases is the most diagnostic study. Therefore, the authors strongly recommend radiographic correlation of incidentally identified lesions. Radiographs accurately predict the biologic activity of a lesion, which is reflected in the

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appearance of the lesion's margin and the type and extent of accompanying periosteal reaction. In addition, the pattern of associated matrix mineralization may be a key to the underlying histology (eg, cartilage, bone, fibro-osseous). In many cases, as in patients who have fibroxanthoma (nonossifying fibroma), osteochondroma, or enchondroma, radiographs may be virtually pathognomonic, requiring no further diagnostic imaging.

Common incidental lesions

The authors organize incidental lesions into the following broad categories: cartilaginous, fibro-osseous, and degenerative. They do not address those lesions that are typically symptomatic and, as a result, likely to be directly related to the patient's clinical presentation and subsequent imaging.

Cartilaginous tumors

Cartilaginous lesions are extremely common. In surgical series, osteochondroma was the most commonly encountered benign bone tumor, representing 32% of all benign tumors in the Mayo Clinic series of 11,087 cases [1]. In the same series, enchondroma represented 12% of benign lesions [1]. These lesions are also common incidental findings, with enchondroma perhaps the most common lesion seen in adults.

Enchondroma

Enchondroma is a tumor composed of lobules of hyaline cartilage that are believed to arise from the growth plate [2]. The lesion is usually centrally located in the metaphysis of tubular bones, although great variability may be seen. Enchondromas are common and are frequent incidental

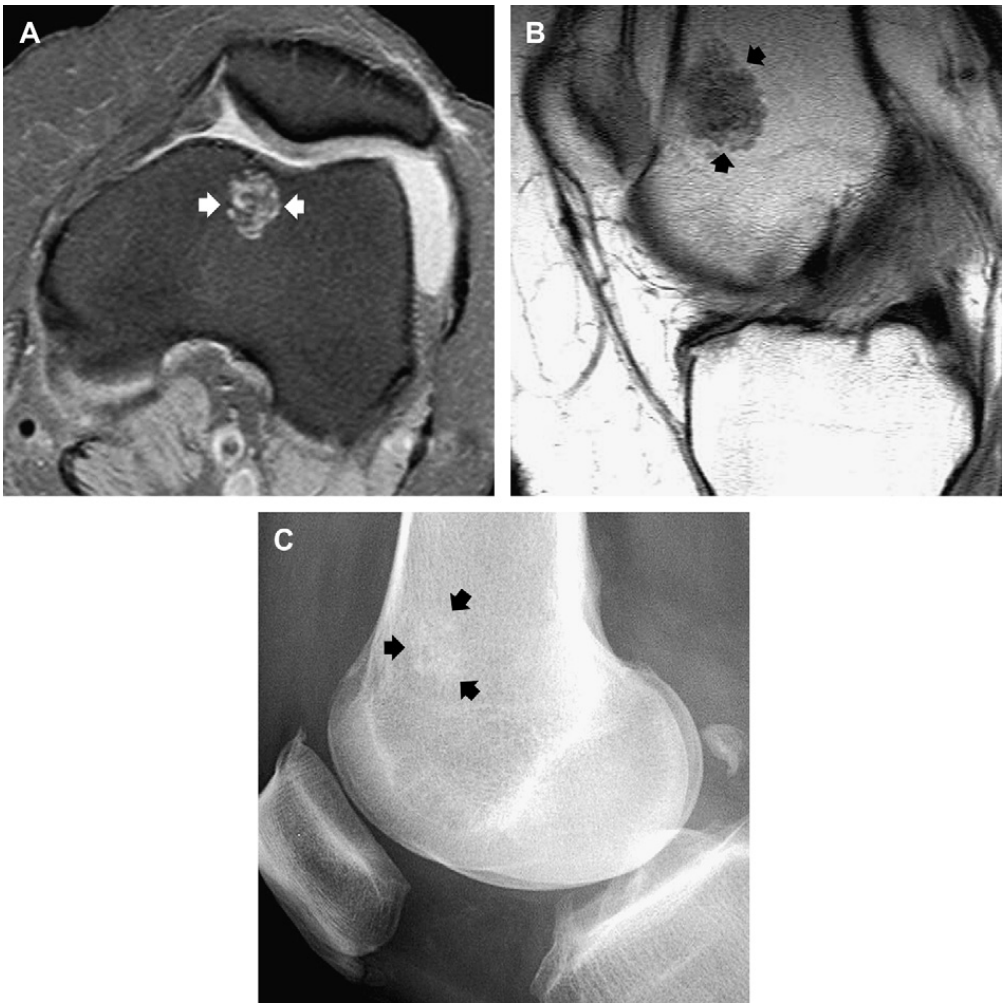

Fig. 1. Incidental enchondroma in the distal femoral metaphysis of a 68-year-old woman. (*A*) Axial fat-suppressed proton density (TR/TE; 2200/22) fast spin-echo MR image shows a well-defined eccentric lesion (*arrows*). The lesion abuts but does not scallop the cortex. (*B*) Sagittal proton density (TR/TE; 2000/20) fast spin-echo MR image shows the lobular contour to better advantage, as well as curvilinear regions of fatty marrow interdigitating between the cartilage lobules (*arrows*). (*C*) Corresponding lateral radiograph shows the subtle mineralization within the lesion (*arrows*).

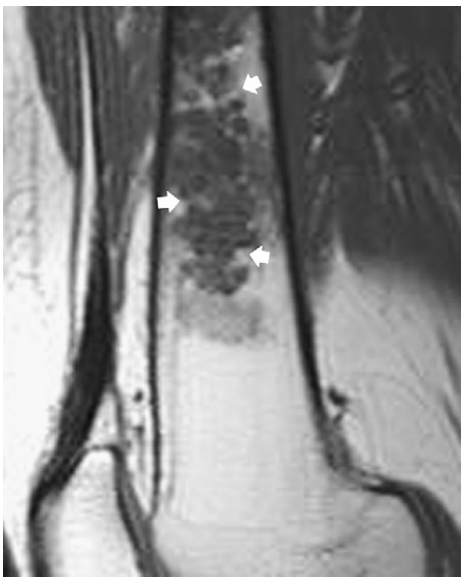

Fig. 2. Incidentally noted chondrosarcoma in a 53-year-old man. Sagittal T1-weighted (TR/TE; 491/13) spin-echo MR image shows a large cartilage tumor. The characteristic lobular contour and interdigitating marrow fat (*arrows*) are well seen. The lesion extended to the lesser trochanter, and features of malignancy were seen in the proximal aspects of the mass.

findings. In a study of 449 patients undergoing MR imaging of the knee, Murphey and colleagues [3] found incidental enchondromas in 2.9% of patients. These were most frequently encountered in the distal femur but were also seen in the proximal tibia and fibula. The lesions were located centrally in the medullary canal in 57% of patients and eccentrically in 43%.

Cohen and colleagues [4] observed a distinctive MR imaging appearance in chondroid lesions containing a matrix of hyaline cartilage. The unique pattern consisted of homogeneous high signal in a discernible lobular configuration on T2-weighted spin-echo MR images. This MRI appearance reflects the underlying high ratio of water content to mucopolysaccharide component within the hyaline cartilage [4]. On T1-weighted MR images, the lesion typically shows a signal intensity approximately equal to that of skeletal muscle, often with high-signal bands, representing medullary fat, extending between the lobules of cartilage [5]. The high signal intensity of the lesion seen on conventional T2-weighted pulse sequences tends to be somewhat reduced on fast or turbo T2-weighted images. Because the MR imaging protocols used in patients presenting for evaluation of internal derangement of the knee differ from those used when tumor is suspected, lesion morphology is increasingly important. Morphology can be especially helpful in the diagnosis of enchondroma when it is used to identify the lobules of cartilage with intervening medullary fat (Fig. 1).

Radiographs reveal a central geographic lytic lesion, with margins varying from sclerotic to ill defined. A lobulated contour is frequently present, as is a mineralized matrix (see Fig. 1). The overlying cortex often shows endosteal scalloping or expansile remodeling, especially in the small bones of the hand, although endosteal scalloping is unusual in lesions about the knee. When lesions are not mineralized and infiltrate the medullary canal without scalloping the adjacent cortex, they may be invisible on radiographs.

Although incidental chondrosarcomas of the knee are rare (Fig. 2), the distinction between enchondroma and intramedullary chondrosarcoma of the appendicular skeleton can be difficult. MR imaging may be useful in this regard. In a review of 187 cartilage lesions, 92 enchondromas and 95 chondrosarcomas, Murphey and colleagues [6] were able to successfully differentiate these lesions in more than 90% of cases. Differentiation was based on clinical and imaging features, with the most important imaging features applicable to incidentally identified lesions being the depth and extent of endosteal scalloping (ie, greater than two thirds of cortical thickness and greater than two thirds of the lesion length).

Osteochondroma

The majority of osteochondromas are asymptomatic and discovered incidentally [7]. The lesion is believed to arise from the periphery of the physis, where an abnormal focus of metaplastic cartilage forms as a consequence of trauma or congenital perichondral deficiency [8]. Rarely, an osteochondroma may be the sequela of trauma or radiation [9]. Osteochondromas are usually classified as pedunculated or sessile (broad-based) on the basis of their morphology. Symptoms, when present, are often secondary to the size and location of the lesion or secondary fracture. Rarely, lesions may develop an overlying bursa [10]. Malignant transformation is rare. By definition, osteochondromas arise from the bone surface. The cortex of the host bone is contiguous with the stalk of the lesion, as is the medullary canal. The surface of the lesion consists of hyaline cartilage of variable thickness.

The MR imaging features of osteochondroma reflect its morphology. Both the cortex and fatty marrow of the host bone are contiguous with that of the lesion (Figs. 3, 4). The hyaline cartilage of the osteochondroma cap shows a signal intensity approximately equal to that of skeletal muscle on

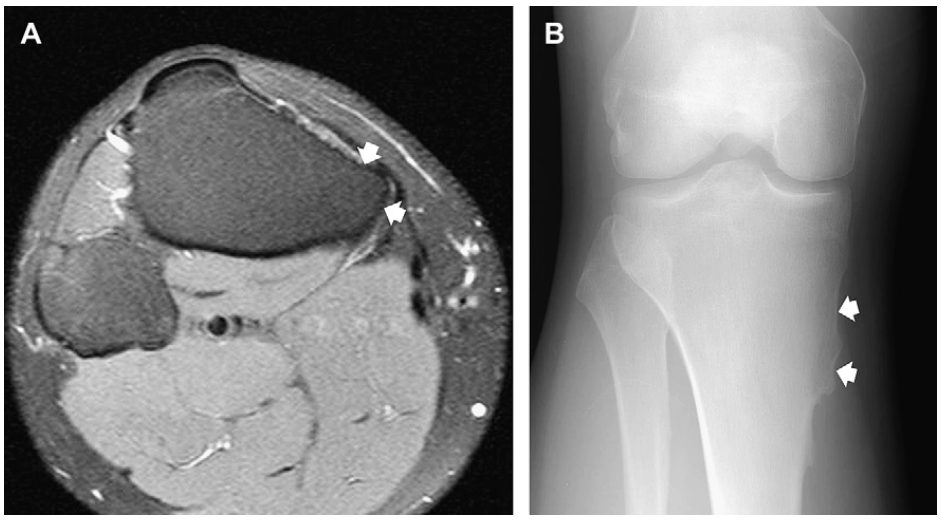

Fig. 3. Osteochondroma in the proximal tibia of a 33-year-old man. (*A*) Axial fat-suppressed proton density (TR/TE; 4000/26) fast spin-echo MR image shows a sessile osteochondroma (*arrows*) arising from proximal medial tibia. Note cortical and medullary continuity. (*B*) Corresponding anteroposterior radiograph shows the sessile osteochondroma (*arrows*).

T1-weighted images and greater than that of fat on T2-weighted images (fluid-like signal). The overlying perichondrium images as a thin peripheral zone of decreased signal intensity on T2-weighted images [11]. MR imaging also permits precise measurement of the thickness of the cartilage cap of an osteochondroma. This feature has important clinical implications, because it assists in predicting which osteochondromas are most predisposed to undergo malignant transformation to "secondary" chondrosarcoma. It is generally agreed that the risk for malignant transformation of an osteochondroma is directly related to the thickness of the cartilage cap, especially when the latter exceeds 2 or 3 cm [11,12].

Fibro-osseous lesions

Although rare specific lesions have been designated as fibro-osseous tumor of bone, this term is often used loosely for those lesions characterized by abundant fibrous or osseous tissue or both. Intraosseous lipoma is frequently associated with areas of ossification; consequently, it is also included in this broad grouping. Those lesions that are usually found incidentally include fibroxanthoma (nonossifying fibroma), benign fibrous histiocytoma, intraosseous lipoma, and bone island.

Fibroxanthoma (nonossifying fibroma)

Fibroxanthoma, nonossifying fibroma, and fibrous cortical defect are terms used to describe

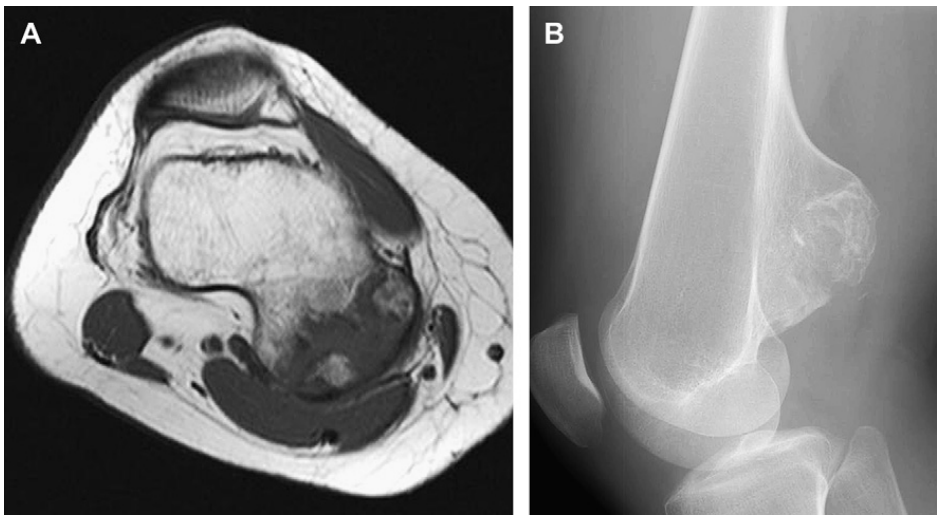

Fig. 4. Osteochondroma in the proximal tibia of a 24-year-old man. (*A*) Axial T1-weighted (TR/TE; 594/16) spin-echo MR image shows a large osteochondroma originating from the distal femoral metaphysis. (*B*) Corresponding anteroposterior radiograph shows a large, board-based osteochondroma.

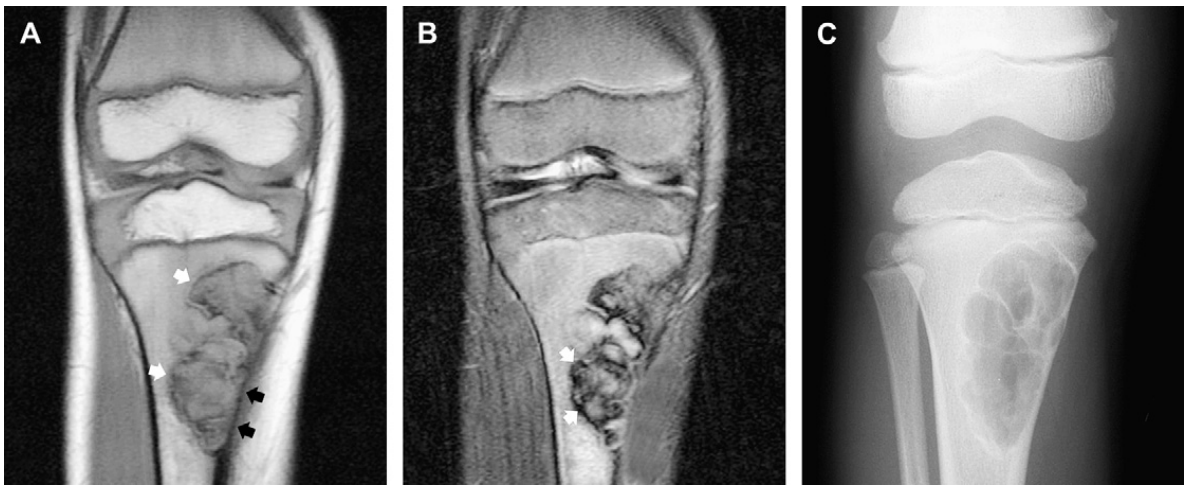

Fig. 5. Fibroxanthoma (nonossifying fibroma) in the proximal tibia of an 8-year-old boy. (*A*) Coronal T1-weighted (TR/TE; 500/14) spin-echo MR image shows a lobulated lesion (*white arrows*) in the metadiaphysis, with mild cortical scalloping and remodeling (*black arrows*). (*B*) Corresponding coronal fat-suppressed turbo T2-weighted (TR/TE; 4500/88) spin-echo MR image shows the lesion to have a low signal intensity. Note areas of markedly decreased signal intensity with "blooming," compatible with areas of hemosiderin deposition (*arrows*). (*C*) Anteroposterior radiograph of the knee shows a lobulated geographic lytic lesion with a sclerotic margin, eccentrically located in the metadiaphysis with mild cortical scalloping and remodeling, typical of a fibroxanthoma.

histologically similar lesions that occur in the metaphysis of long bones. Such lesions are quite common: Caffey [13] noted one or more of them in 36% of children studied serially. The clinical variability of the lesion has led to this confusing array of terms. Small, metaphyseal, eccentric lesions that are limited to the cortex are usually termed *fibrous cortical defects* and are likely to represent most cases described by Caffey. Persistent lesions that show interval growth and extend into the medullary cavity are usually referred to as *nonossifying fibromas* [14]. The term *fibroxanthoma* is preferred by the authors because it better reflects the underlying pathologic condition, which is composed of spindle-shaped fibroblasts, scattered giant cells, and foam (xanthoma) cells. Additionally, because these lesions may ossify and become sclerotic, use of the designation *fibroxanthoma* obviates the use of the descriptive terms *ossifying* and *nonossifying fibroma* to describe healing lesions.

The natural history of fibroxanthoma was nicely documented by Ritschl and colleagues [15] in a study of 107 lesions in 82 patients. They noted that fibroxanthomas are initially seen in the metaphysis, in the vicinity of the epiphyseal cartilage, appearing round, oval, or slightly polycyclic in shape, with well-defined nonsclerotic margins. With time, the lesion increases in size, becoming metadiaphyseal as the physis moves away from the fibroxanthoma with growth. The lesion maintains a distinct polycyclic shape, surrounded by a slightly sclerotic border. At this stage, the lesion will thin the host cortex and maintain a discrete hourglass shape. Subsequently, the lesion will ossify, with ossification invariably starting from the diaphyseal side and progressing toward the epiphysis. Ossification continues until the fibroxanthoma is homogeneously sclerotic and then completely replaced by normal bone. The time course for this progression is variable and may range from 2.5 to 7.3 years [15]; moreover, it is unknown why some lesions progress in this orderly fashion and others continue to grow.

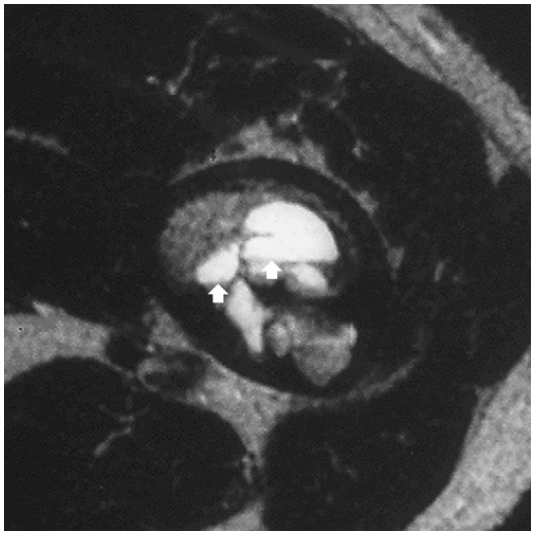

Fig. 6. Fibroxanthoma (nonossifying fibroma) in the distal femur of a 14-year-old boy. Axial T2-weighted spin-echo MR image shows multiple fluid–fluid levels (*arrows*) in a fibroxanthoma owing to secondary aneurysmal bone cyst formation.

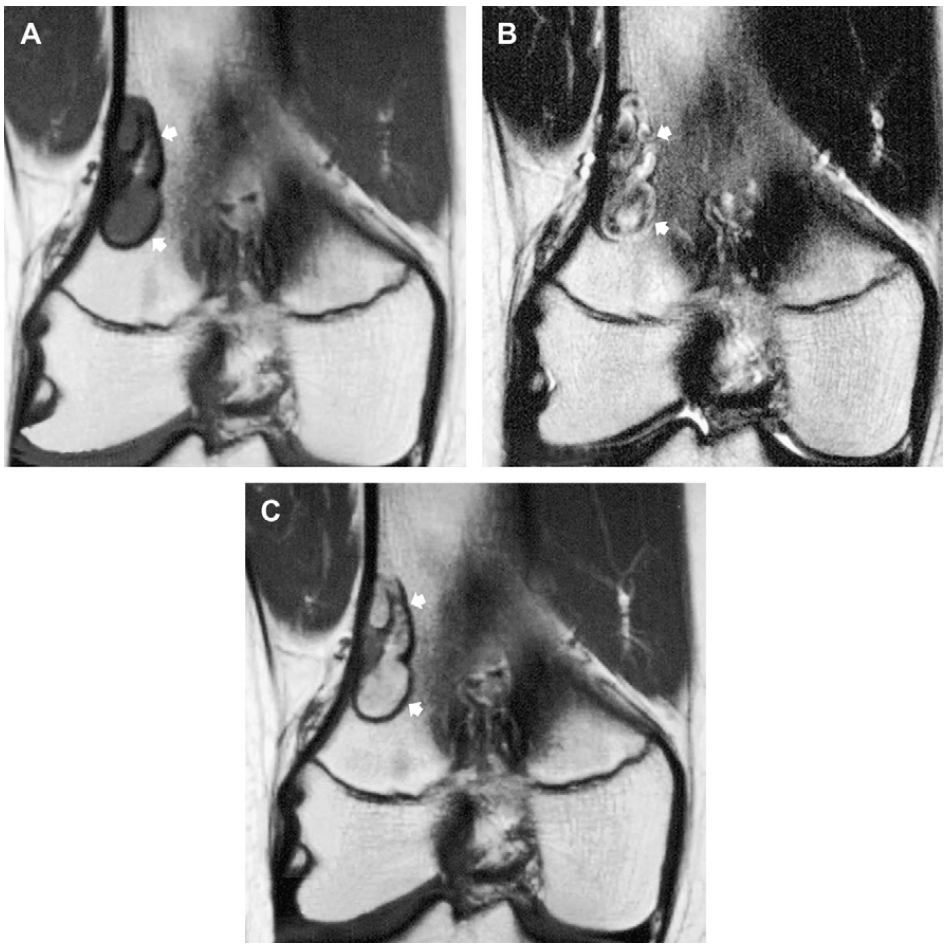

Fig. 7. Fibroxanthoma (nonossifying fibroma) in the distal femur of an adolescent boy. (*A, B*) Corresponding coronal T1-weighted (TR/TE; 450/12) spin-echo MR images preceding (*A*) and following (*B*) the administration of intravenous contrast show marked, relatively intense enhancement (*arrows*). Note typical eccentric metaphyseal location and lobulated contour. (*C*) Corresponding turbo T2-weighted (TR/TE; 4000/96) spin-echo MR image shows a heterogeneous low-to-intermediate signal intensity.

Fibroxanthomas are not uncommon incidental findings on MR imaging. Their MR imaging appearance parallels their radiographic appearance, typically demonstrating a well-defined, eccentric, scalloped, metadiaphyseal or metaphyseal geographic lesion. The MR imaging appearance is variable but most frequently demonstrates decreased signal intensity on T1- and T2-weighted spin-echo images, reflecting fibrous tissue, hemorrhage, and hemosiderin within the tumor [14,16]. Collagen and bone formation within the tumor also contribute to the finding of decreased signal intensity (Fig. 5) [16]. Less frequently, areas with a signal intensity similar to that of fat may be seen. Secondary aneurysmal bone cyst formation with fluid–fluid levels has also been reported (Fig. 6) [17]. After the administration of contrast, intense enhancement is seen in almost 80% of cases (Fig. 7), with marginal septal enhancement seen in those remaining [16]. The radiographic appearance of fibroxanthoma is virtually pathognomonic, demonstrating an eccentric, scalloped, geographic lytic lesion with a sclerotic margin in the metadiaphysis or metaphysis of long bones (see Fig. 5).

Benign fibrous histiocytoma

Benign fibrous histiocytoma of bone is histologically indistinguishable from fibroxanthoma and is separated from it only on clinical and radiologic grounds [18]. In essence, the designation of benign fibrous histiocytoma is used for fibroxanthomas with atypical radiologic or clinical manifestations (Fig. 8). O'Donnell and Saifuddin [17] reported 15 benign fibrous histiocytomas, one third of which demonstrated fluid–fluid levels on MR imaging.

Intraosseous lipoma

Although lipoma is the most common soft tissue lesion by a large margin, intraosseous lipoma is perceived as rare. Ramos and colleagues [19] noted only approximately 60 cases in their 1985 review

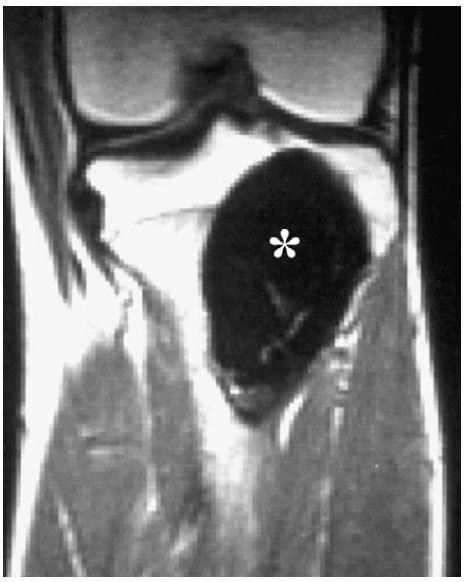

Fig. 8. Benign fibrous histiocytoma in the proximal tibia of a 19-year-old man. Coronal T1-weighted (TR/TE; 500/32) spin-echo MR image shows a well-defined lesion in the epiphysis and metaphysis of the proximal tibia (*asterisk*). Histologically, the lesion was typical of a fibroxanthoma; the marked loss of signal intensity was due to previous hemorrhage and hemosiderin deposition within the lesion. A similar appearance was seen on T2-weighted images (not shown).

of the literature. In the authors' experience, these lesions are not uncommon and are often incidental findings on examinations obtained for other reasons. Although clinical presentation is variable, pain has been reported in as many as 70% of patients [20,21].

Milgram [20] described three stages of intraosseous lipomas, which are reflected in their MR imaging appearance. Stage 1 lesions contain viable mature lipocytes, identical to those in subcutaneous fat, containing variable interspersed bony trabeculae. The osseous cortex is intact; however, mild expansile remodeling may be present. Stage 2 lesions will show areas of involution, including infarction, myxoid change, cyst formation, and often, reactive ossification. When infarction extends through the entire lesion, it is classified as a stage 3 lipoma. As a result of the central infarction, intraosseous lipoma is frequently confused with an intraosseous infarct.

On MR imaging, stage 1 lesions are well defined, with a signal intensity that mirrors that of fat on all pulse sequences. The adipose tissue within an intraosseous lipoma is devoid of hemopoietic elements and is often "fattier" than the surrounding marrow. Mild expansile remodeling is apparent in about 50% of cases (Fig. 9) [20]. Stage 2 lesions have a more complex MR imaging appearance as a result of the involutional changes, reflecting infarction, myxoid change, cyst formation, calcification, and ossification. Careful inspection, however, will reveal areas of fat within the lesion (Fig. 10). In stage 3 lesions, involutional change may completely fill the lesion, and the diagnosis may not be apparent.

Radiographic features will mirror those seen on MR imaging. Stage 1 lesions will be geographic, purely lytic lesions, with mild expansile remodeling seen in approximately 50% of cases [20]. A thin sclerotic margin is typically present in juxta-articular lesions (see Fig. 9). Stage 2 lesions will have a similar appearance and will also demonstrate

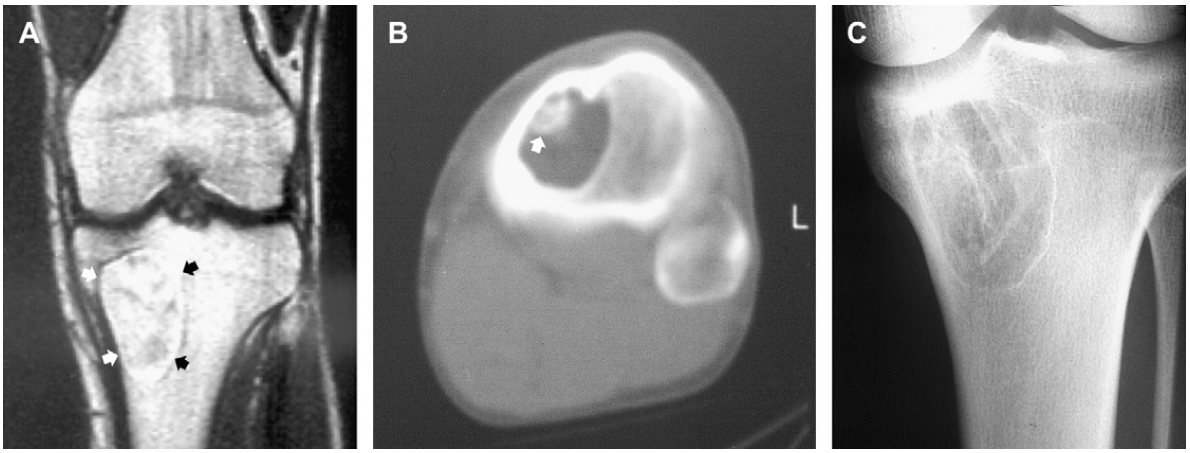

Fig. 9. Intraosseous lipoma in the proximal tibia of a 22-year-old man. (*A*) Coronal T1-weighted (TR/TE; 600/32) spin-echo MR image shows an eccentric lesion in the tibial metaphysis (*black and white arrows*), extending into the epiphysis, with a signal intensity similar to that of the adjacent marrow. (*B*) Axial CT scan shows the lesion to have an attenuation similar to that of the adjacent subcutaneous adipose tissue. Note delicate ossification within the lesion (*arrow*). (*C*) Corresponding anteroposterior radiograph shows a geographic lytic lesion with a sclerotic margin, eccentrically located in the metaphysis extending into the epiphysis.

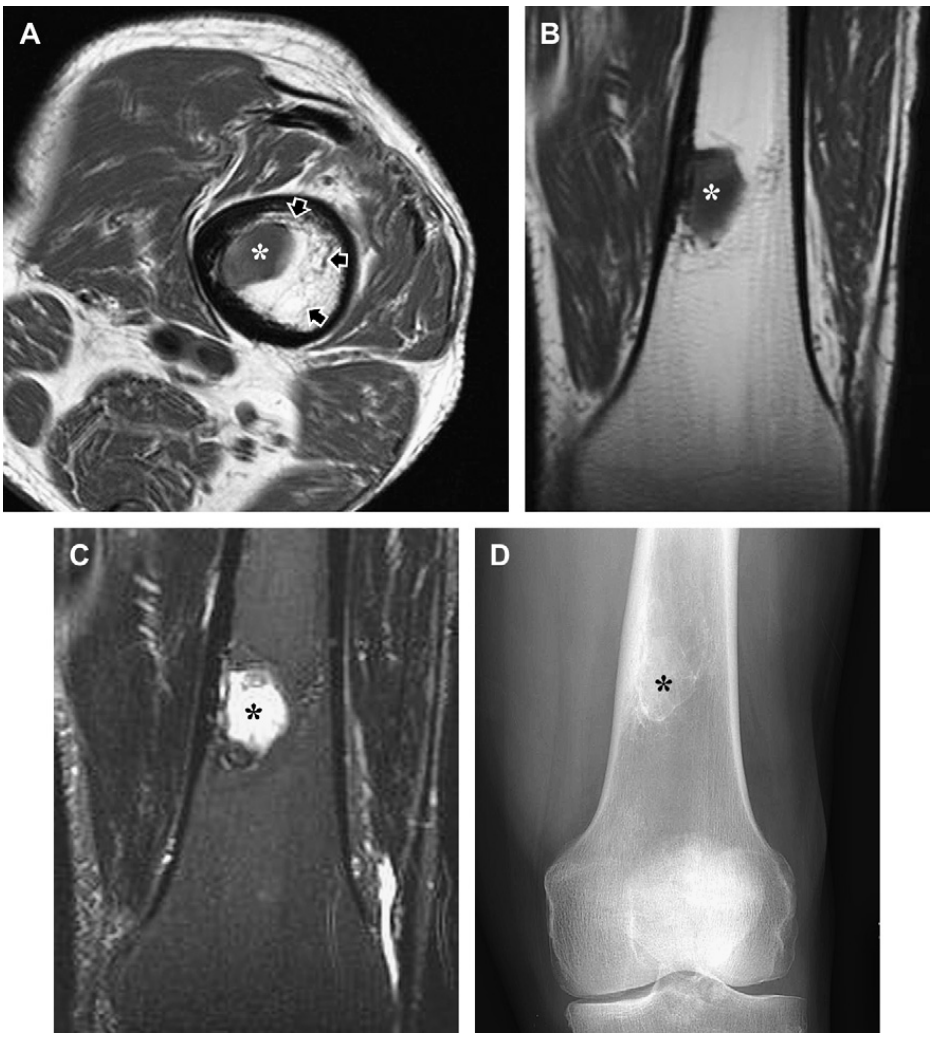

Fig. 10. Intraosseous lipoma with involutional change in the distal femur of a 72-year-old woman. (*A*) Axial T1-weighted (TR/TE; 623/17) spin-echo MR image of the distal femur shows an area of cyst formation (*asterisk*) within the lesion. Portions of the lesion are well delineated by marginal sclerosis (*arrows*), whereas other areas are poorly defined. (*B, C*) Corresponding coronal T1-weighted (TR/TE; 620/17) (*B*) spin-echo and short-tau inversion recovery (TR/TE/TI; 7870/86/160) (*C*) MR images show the involutional cyst (*asterisk*), although the margins are incompletely visualized. (*D*) Anteroposterior radiograph of the distal femur shows a thin mineralized margin around the cyst (*asterisk*). Portions of the mineralized margin around the lesion are also visualized.

areas of mineralization (see Fig. 10). Stage 3 lesions demonstrate greater involutional change with reactive ossification, frequently with associated peripherally mineralized cyst formation [10,20]. The cysts within lipomas may become hemorrhagic, with subsequent alterations in the MR signal intensity [22].

Recently, Wada and Lambert [23] reported a case of a simple bone cyst treated with intralesional corticosteroids, and subsequently with intralesional ethanol, that developed a rind of fat at the periphery of the lesion, mimicking an intraosseous lipoma with involutional change. It is not clear whether such a process could occur spontaneously; however, it does raise an interesting question as to the true nature of intraosseous lipomas.

Bone island

A bone island, also termed enostosis, is a focal intraosseous mass of compact lamellar bone with Haversian systems, which blends into the surrounding cancellous bone [24]. Most lesions are between 2 mm and 2 cm in size and are located in the juxtaarticular regions of long bones, oriented along the long axis of the bone. It is difficult to determine the prevalence of bone islands; however, they are extremely common and seen with equal frequency in men and women [10].

MR imaging reflects the lesion's morphology. Because the lesion simulates cortical bone histologically, the MR imaging appearance will reflect the signal intensity of cortical bone, with a complete loss of signal on all pulse sequences [25]. The

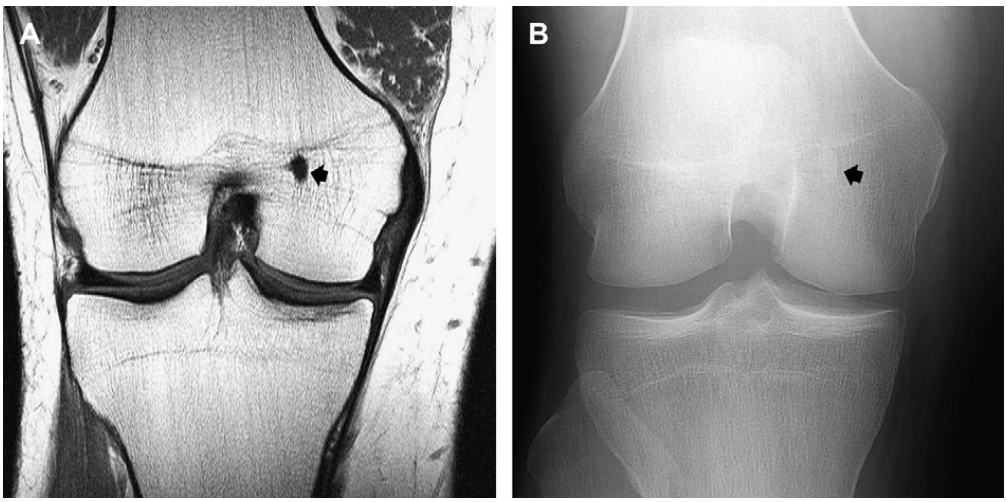

Fig. 11. Bone island (enostosis) in the medial femoral epiphysis in a 22-year-old man. (*A*) Coronal weighted (TR/TE; 704/14) spin-echo MR image of the distal femur shows an oval focus of decreased signal intensity (*arrow*). The lesion blends into the surrounding cancellous bone, yielding a spiculated margin. (*B*) Anteroposterior radiograph of the distal femur shows a subtle bone island (*arrow*) corresponding to the lesion seen on MR imaging.

fusion of the mass with the surrounding cancellous bone will give rise to a "paint-brush" or "spiculated" margin (Fig. 11) [24]. Although bone islands are usually small, "giant" bone islands have been described (Fig. 12). It has been the authors' experience that these large lesions may be somewhat heterogeneous on MR imaging. Radiographs will show a single or multiple, homogeneously dense, ovoid, round, or oblong focus of sclerosis with a spiculated margin (see Fig. 11) [26].

Degenerative lesions

Degenerative joint disease is the most commonly encountered articular disorder. The imaging manifestations of degenerative arthritis usually allow a satisfactory diagnosis; however, when osteoarthritic cysts become the dominant radiologic feature, the underlying diagnosis may be less apparent.

Osteoarthritic cyst

The most common intraosseous lesion identified during MR imaging evaluation of the knee in older adults is the subchondral degenerative cyst. Also termed synovial cyst, subchondral cyst, degenerative cyst, subarticular pseudocyst, and geode, these lesions are a prominent finding in patients who have osteoarthritis [27]. Although the designation of "cyst" is used to describe this lesion, this term is inaccurate, in that it implies a fluid-filled, epithelial-lined cavity [27]. Degenerative subchondral cysts are not lined by epithelium, nor are they uniformly fluid filled. The term geode is used in geology to describe a hollow, usually spheroidal rock with crystals lining the inside wall [27].

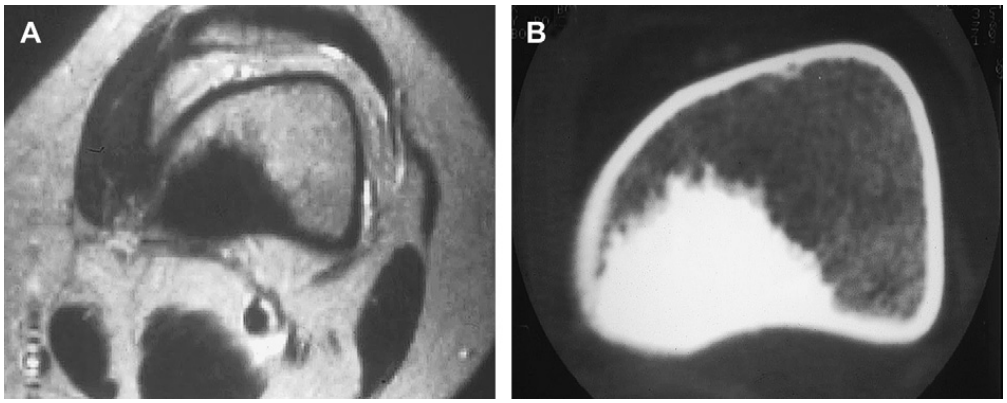

Fig. 12. Giant bone island (enostosis) in the distal femur. (*A*) Axial T2-weighted spin-echo MR image of the distal femur shows a large mass with decreased signal intensity, similar to that of cortical bone, and spiculated margins with the adjacent marrow. T1-weighted image (not shown) had a similar appearance. (*B*) Corresponding noncontrast CT scan shows the spiculated margin to better advantage.

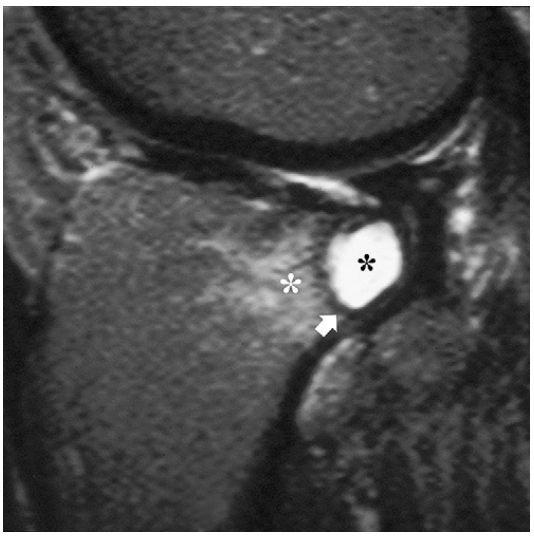

Fig. 13. Subchondral cyst in the proximal tibia. Sagittal T2-weighted spin-echo MR image of the proximal tibia shows a small, well-defined, fluid-like mass, adjacent to the articular surface (*black asterisk*). Note subtle adjacent edema-like signal (*white asterisk*) and marginal sclerosis (*arrow*).

Two theories exist regarding the pathogenesis of subchondral cysts in osteoarthritis. One suggests that the mechanism is elevated intra-articular pressure, with intrusion of synovial fluid through the cartilage and subsequent subchondral cyst formation [28]. The other surmises that the impaction of apposing bony surfaces results in fracture and vascular insufficiency of the subchondral bone, leading to cystic necrosis [29]. Regardless of whether one or both of these mechanisms is at play, cystic spaces develop in the subchondral bone [27,30].

Subchondral cysts may also develop following injury. Although the mechanism of posttraumatic subchondral cyst formation is not known, it is reasonable to suspect that these same processes are at play. Posttraumatic cysts have a similar appearance to degenerative cysts, although they are typically larger [27]. Similar to degenerative subchondral cysts, posttraumatic cysts may communicate with the joint.

Cysts are often multiple and variable in size; they are typically well marginated with a thin sclerotic margin and are associated with joint space narrowing, osteophyte formation, and subchondral sclerosis. In cases with prominent features of osteoarthritis, the diagnosis is usually made without difficulty. MR imaging has been shown to be markedly more sensitive in detecting subchondral cysts [31,32]. The MR imaging appearance of these common lesions reflects their pathophysiology: a focal, round-to-oval, subchondral cyst–like lesion, with an intermediate to high signal intensity on fluid-sensitive sequences. A thin sclerotic margin is often appreciated as a rind of decreased signal intensity at the periphery of the lesion. The authors often note associated surrounding nonspecific edema-like signal (Fig. 13). Single or large (greater than 2 cm) cysts are unusual, and they are frequently mistaken for more sinister processes (Fig. 14).

Radiographically, these lesions are well defined with a sclerotic margin that may—or, more typically

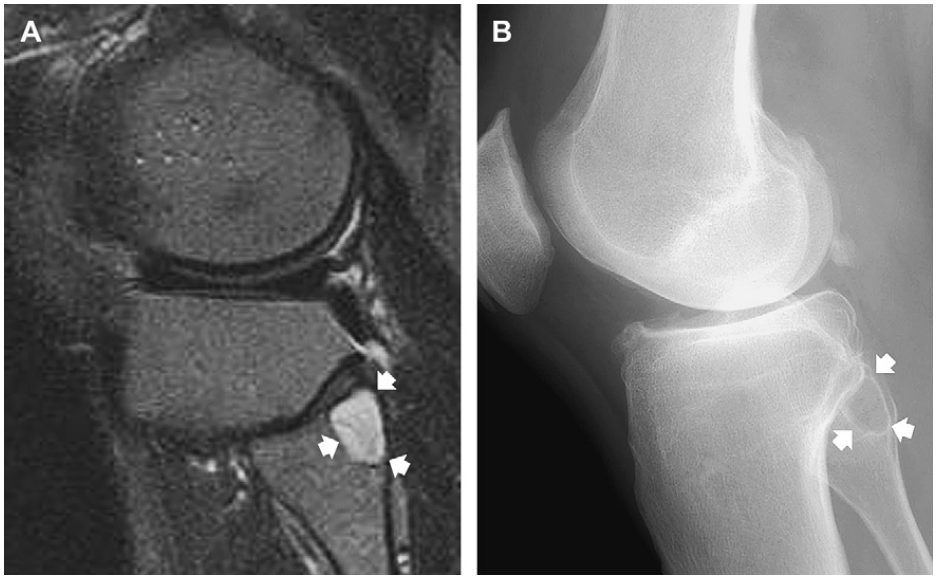

Fig. 14. Subchondral cyst in the proximal fibula. (*A*) Sagittal T2-weighted (TR/TE; 2300/80) spin-echo MR image of the proximal fibula shows a focal high-signal intensity eccentric mass (*arrows*), immediately adjacent to the articular surface. The absence of significant associated degenerative arthritis suggested the possible diagnosis of a giant cell tumor. (*B*) Corresponding lateral radiograph shows the lesion to have a well-defined sclerotic margin (*arrows*), in keeping with a degenerative subchondral cyst.

in the authors' experience, may not—communicate with the joint. Lesions are often found adjacent to the cruciate ligament attachments [33]. An adjacent soft tissue ganglion may be present, and gas may be present within either component. Schajowicz and colleagues [34] noted that 15% of cases in their series resulted from penetration of a soft tissue ganglion into the underlying bone, whereas the remaining cases resulted from altered mechanical stresses leading to vascular disturbances, foci of bone necrosis, with subsequent healing.

Intraosseous ganglion

Intraosseous ganglia are solitary, unilocular or multilocular lesions found at or near the ends of long bones in the subchondral region [34]. Typically occurring in middle-aged adults who present with mild, localized pain, the lesion is similar to a soft tissue ganglion [35,36]. The pathogenesis of intraosseous ganglia is unclear, and there is debate as to whether this entity may be differentiated from degenerative subchondral or posttraumatic cysts. Although they are not histologically unique, intraosseous ganglia are characterized by fibroblastic proliferation and mucoid degeneration. Those who use this designation typically reserve it for intraosseous lesions resembling subchondral cysts in patients who have little or no degenerative arthritis in the adjacent articulation.

Summary

Incidental osseous lesions are commonly identified in patients undergoing MR imaging of the knee. Although a wide spectrum of lesions may be seen, the most common lesions may often be successfully diagnosed on the basis of their MR imaging findings and correlating radiographs.

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