Osteoid Osteoma
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The osteoid osteoma is the most common osteoid-forming tumor seen in the skeletal system, accounting for 10% of all benign bone tumors. It is more common in males than females with the peak incidence in the second decade of life. The lesions produce symptoms of dull, aching pain that is more severe at night. The pain is relieved with anti-inflammatory medication such as aspirin or non-steroidal anti-inflammatory drugs (NSAID) that inhibit the high concentration of prostaglandins found in the nidus of the osteoid osteoma. The lesions occur typically in the cortical structures of long bones such as the femur or tibia but can also be found in the small bones of the ankle, wrist or vertebral column. The lesion is characteristic for its dense, sclerotic response in the cortical bone resulting in a fusiform enlargement on the surface of the cortex as a response to the small inflammatory nidus or granuloma (measuring up to one
centimeter in diameter) in the central area of the sclerotic response. If the lesion is located in a central medullary area, such as the metaphysis or on the very superficial surface of a bone, the sclerotic response is less severe. If the nidus is located close to or within a joint structure, as in the femoral neck area, there will be a significant inflammatory synovitis in the adjacent joint that gives the clinical appearance of a pyarthrosis. In the spine, the lesions are usually located in the posterior elements of the spine such as the laminae or pedicles. The lumbar spine is the most common location followed second by the dorsal spine. Atypical secondary painful scoliosis will develop with the convexity seen on the side opposite the inflammatory lesion.

The two most significant diagnostic imaging studies are a CT scan through the nidus area to identify its anatomic location and a bone isotope scan which is invariably positive, especially in a symptomatic lesion. It is the current feeling that the osteoid...
osteoma is a true benign neoplasm of bone in which a combination of osteoclastic and osteoblastic activity are seen. There are no inflammatory cells such as lymphocytes or plasma cells as would be seen in a Brodie’s abscess. Non-steroidal anti-inflammatory medications such as prostaglandin inhibitors can be very effective in controlling the disabling symptoms and helping the patient get thru a period of one or two years during which time the lesion will typically involute into a painless lesion that does not require surgery. However, if the patient is unable to live with the pain during this time, a surgical approach is indicated. Following exposure of the lesion, a high speed burr is used to burr into the inflammatory bone that is characterized by a pinkish hyperemia. When the nidus is found, a small curette is used to core the inflammatory nidus for pathological diagnosis and the cavity of the nidus is burred an additional 2 or 3 mm which usually results in a very dramatic relief of symptoms and a permanent cure from the
disease process. It is not necessary to remove the large dense sclerotic bone surrounding the nidus; doing so could result in a pathologic fracture following surgery. In the spine, a simple laminectomy is frequently carried out. If the lesion is located in the pedicle a simple burring into the pedicle will relieve the patient of the inflammatory pain.

More recently, relatively non-invasive techniques have been tried to remove the nidus of the osteoid osteoma by means of a CT guided burr placed through a protective trocar or by placement of a heat-producing radio frequency probe that, when properly positioned, can destroy the nidus through thermal coagulation. These techniques are particularly valuable for deep-seated lesions located in the acetabulum. For lesions located in the pedicle of a vertebra one must be careful not to damage an adjacent spinal root or spinal cord.
A 19-year-old male presented with dull, aching pain, worse at night, relieved by aspirin. AP radiograph of the femur shows a typical intracortical osteoid osteoma of the mid-shaft femur with a dense sclerotic response and an 8 mm nidus.
Isotope bone scan reveals hot uptake in the area of the inflammatory bone surrounding the nidus suggesting an active painful lesion.
The best imaging study for an osteoid osteoma is a CT scan which, in this case, shows an 8 mm nidus located in the posterior cortex of the femoral diaphysis.
A macrosection from the resected specimen reveals that more cortical bone than necessary was taken. It shows the entire nidus well incased in reactive bone.
On this low power photomicrograph there is evidence of young woven bone formation with excessive early osteoid formation on the surface produced by aggressive but benign osteoblasts. There is osteoclastic remodelling and hyperemic granulation tissue throughout.
Typical intracortical osteoid osteoma of the diaphysis of the femur in a 29-year-old male with a 6 mm nidus seen in the posterior cortex.
CT scan through the nidus of the lesion in the posterior cortex of the femur measures 6 mm in diameter.
11 yr male
osteoid osteoma
femur

Radiographic image of an osteoid osteoma located in the proximal femur of an 11-year-old boy. Dense sclerosis is seen in the lateral cortex but the nidus is not visible.
Increased isotope imaging is noted in the proximal right femur demonstrating an active symptomatic lesion.
CT scan demonstrates a small nidus located in the posterolateral cortex of the femur.
Low power photomicrograph shows benign osteoid formation in a sea of hyperemic granulation tissue with aggressive but benign osteoblastic activity and woven bone formation.
AP radiograph of the proximal femur in a 5-year-old boy shows dense cortical sclerosis on the medial aspect of the proximal femur with poor definition of the nidus.
Extensive fusiform sclerotic response to an inflammatory nidus measuring 8 mm in diameter in the medial cortex of the femur of a 12-year-old boy.
Radiographic evidence of an osteoid osteoma in the base of the femoral neck in a 6-year-old boy. There is minimal sclerotic response because of a more medullary location of the nidus which measures about 5 mm in diameter.
Frog-leg lateral radiographic image shows the nidus to be in a posteromedial position just behind the lesser trochanter.
CT scan clearly shows a 5 mm nidus surrounded by sclerotic bone in a medullary position just beneath the medial cortex adjacent to the lesser trochanter. This lesion would be best approached posteriorly.
This AP radiographic picture shows a sclerotic intracortical osteoid osteoma adjacent to the lesser trochanter in the proximal femur of a 30 year female.
On this T1-weighted coronal MRI, the low signal features of dense sclerotic bone are seen but there is very poor imaging of the nidus compared to a study performed with CT imaging.
On this axial proton density MRI the nidus of the osteoid osteoma can barely be seen. MRI is not a good imaging study for finding the nidus.
Macrosection showing a complete resection of the nidus of an osteoid osteoma surrounded by dense sclerotic bone.
AP radiograph of the hip in a 23-year-old male reveals a lytic nidus in the neck of the femur. He had painful secondary synovitis because of the intra-articular nature of this lesion.
Bone isotope scan reveals a focal pickup in the neck of the femur suggesting an active lesion.
Clearly defined 6 mm nidus in the center of the calcar of the proximal femur.
AP radiograph of the proximal femur of a 12-year-old boy demonstrating a 10 mm lytic nidus in the medullary canal, just inside the greater trochanter, with a diffuse inflammatory halo of reactive bone characteristic of the medullary type of osteoid osteoma.
A macrosection through the completely excised nidus seen with its surrounding sclerotic bone.
This low power photomicrograph shows a portion of the nidus as it contacts the adjacent sclerotic reactive bone formation.
AP radiograph of the pelvis of a 10-year-old girl who presented with a painful effusion of the left hip. There are lytic changes seen in the calcar of the femur just above the lesser trochanter with osteopenia of all the juxta-articular structures suggesting the diagnosis of hematogenous osteomyelitis of the femoral neck. The joint fluid aspirate was cloudy suggesting an infectious pyarthrosis, however the cultures were negative. The lesion was curetted.
Low power photomicrograph from the curettement reveals benign osteoid formation with aggressive osteoblastic and osteoclastic activity in a sea of hyperemic granulation without evidence of inflammatory lymphocytes or polymorphs which rules out the diagnosis of infectious osteomyelitis.
AP radiograph of the pelvis taken one year post-curettage at which time the patient was totally asymptomatic. There is evidence of healing around the area of the curetted nidus.
Frog-leg radiograph of the proximal femur of a 25-year-old male with a painful effusion of the hip. There is a small surface sclerotic lesion on the neck of the femur just below the femoral head.
This CT scan demonstrates the surface nature of this superficial nidus located in the anterior cortex of the femoral neck. It was easily reached through an arthroscopic approach without opening the hip joint.
AP radiograph of the pelvis of a 6-year-old boy with a painful effusion of the left hip thought to be a pyarthrosis. There is a sclerotic lesion in the medial wall of the acetabulum and juxta-articular osteoporosis of the entire hip joint suggesting inflammatory synovitis.
Frog-leg lateral of both hips demonstrating a sclerotic lesion with a lytic nidus in the medial wall of the acetabulum just above the acetabular notch. This location lends itself well to a non-invasive technique such as a CT-guided burr or CT-guided thermal ablation with a radio frequency probe.
Bone isotope study helos to localize the active nidus of an osteoid osteoma in the medial wall of the left acetabulum.
Case #13

11 yr male
osteoid osteoma
distal femur

AP radiograph of the distal femur of an 11-year-old boy with an 11 mm nidus on the surface of the lateral metaphysis of the distal femur. The sclerotic response proximally could confuse the diagnosis with an osteosarcoma.
Bone isotope scan reveals a hot pickup in the area of the nidus seen in the lateral metaphysis of the distal femur. It is quite focalized compared to the pickup that would be seen with osteosarcoma.
AP radiograph of the distal femur of a 16-year-old boy with a multifocal nidus of an osteoid osteoma. There is an inflammatory halo extending out a distant of 1 cm with considerable subperiosteal new bone formation that because of the age of the patient and location of the lesion, could confuse the diagnosis with osteogenic sarcoma.
6 yr male
osteoid osteoma
tibia

AP radiograph of the leg of an 8-year-old boy with an osteoid osteoma of the distal tibia. There is an 8 mm nidus in the anteromedial cortex just below mid-shaft surrounded by sclerotic reactive bone.
This isotope scan shows a strong pickup in the cortex of the tibia just below mid-shaft.
Gross specimen showing the small nidus located in the cortex of the tibia with adjacent pinkish hyperemia in the medullary canal as a response to the nidus.
Macrosection demonstrating the entire nidus surrounded by sclerotic reactive bone immediately beneath the tibial cortex.
High power photomicrograph showing reactive osteoid formation formed by aggressive but benign osteoblasts and remodelling osteoclasts as well.
Postoperative radiographic appearance of the tibia shortly after the wide surgical resection. The surgery was totally unnecessary and created a major mechanical defect that could result in pathological fracture at a later date.
Postoperative radiograph taken 11 months later showing a pathological stress fracture through the defect created by the excessive wide resection of the osteoid osteoma. This required bone grafting procedures to obtain union.
10 yr male osteoid osteoma tibia

Lateral radiograph of the proximal tibia of a 10-year-old boy with a typical cortical osteoid osteoma of the anterior cortex. There is a small visible nidus and significant sclerotic reactive bone.
Operative photograph shows the early shaving away of cortical bone using either an osteotome or a high-speed burr. There are early hyperemic changes visible in the cortex that help to identify the nidus location.
Additional shaving away of reactive bone with either a burr or an osteotome helps to identify the location of the nidus. At this point, a curette can be used to punch into the nidus area to remove a pathological specimen.
Operative appearance of the defect created by a conservative debridement and curettement of the nidus followed by an advancement of the margins by 2 mm with a high-speed burr. There is no need for a bone grafting procedure or internal fixation devices.
AP radiograph of the proximal tibia of a 15-year-old boy reveals a small nidus located in a dense sclerotic response in medial cortex of the proximal metaphysis of the tibia.
Lateral radiograph of the proximal tibia demonstrating a nidus in the posteromedial cortex of the proximal tibial metaphysis.
There is a hot pickup in the proximal tibial metaphysis especially on the medial side demonstrating an active osteoblastic lesion.
Coronal T2-weighted MRI demonstrates a low signal lesion involving the entire proximal tibial metaphysis secondary to edema around a heavily ossified reactive sclerosis in the posteromedial cortex of the metaphysis.
Coronal gadolinium contrast MR image demonstrates high signal activity secondary to extensive inflammatory edema throughout the entire proximal metaphysis of the tibia including the central portion of the nidus that is not ossified that is low signal. There is low signal reactive bone seen in the adjacent cortex and surrounding inflammatory osteitis.
Axial T1-weighted MR image shows the low signal features of the dense reactive bone in the medial cortex of the tibia and diffuse inflammatory edema of the adjacent medullary canal. The nidus can just barely be seen.
Low power photomicrograph shows significant benign-appearing woven bone asteroid formation with active osteoblastic activity, as well as osteoclastic activity, and hyperemic granulation tissue in the background without inflammatory cells.
High power photomicrograph demonstrating young woven bone osteoid and osteoclastic giant cells.
This 52 year old male developed pain above the ankle three months ago for which this x-ray was obtained revealing a four mm nidus in the anterior cortex of the distal tibia with surrounding reactive bone formation suggesting the diagnosis of osteoid osteoma.
On this sagittal MRI the nidus is clearly seen even though we usually prefer a CT study to locate the nidus of an osteoid osteoma. The low signal in the center of the nidus suggests early bone formation as the lesion involutes spontaneously.
On this axial MRI study we can also see the nidus clearly in the anterior cortex of the distal tibia. This is an unusual age for an osteoid osteoma that are usually seen in children and young adults. The treatment here was a simple burring of the nidus thru a small skin incision.
A scanogram cut through the mid-portion of the tibia of a 17-year-old male shows a very specific 11 mm nidus of an osteoid osteoma. This would be classified as an intramedullary type because of its central location.
Gross specimen following a wide resection demonstrates the hyperemic nature of the nidus. Inflammatory changes are seen in the surrounding marrow and there is minimal sclerotic response in the adjacent cortex as compared to the typical intracortical type of nidus. It is obvious that this lesion was overtreated as seen by the size of the specimen.
Low power photomicrograph shows woven bone formation the result of aggressive but benign osteoblastic activity with surrounding hyperemic granulation tissue without inflammatory cells.
Radiograph of a typical osteoid osteoma of the distal tibia in an 18-year-old male. It is located in the posteromedial cortex of the tibia with dense reactive sclerotic bone formation.
AP radiograph of an 18-year-old female with an intramedullary type of osteoid osteoma of the proximal tibial metaphysis with a 10 mm nidus surrounded by a diffuse halo of reactive bone formation extending out a distance of 1-2 cm. There is evidence of periosteal response circumferentially. Infectious osteomyelitis would be a consideration in the differential diagnosis here.
Lateral radiograph shows an area of fluffy reactive bone formation directly beneath the periosteum in the posterior aspect of the proximal tibia. There is minimal sclerosis of the subadjacent cortex and a poorly defined nidus which is characteristic of the so-called peripheral or parosteal osteoid osteoma.
Case #22

17 yr male osteoid osteoma fibula

Anterior radiograph of the proximal fibula of a 17 year old male demonstrating a nidus in a posterior cortical position with sclerotic bone reaction.
Lateral view

Lateral radiograph of the proximal fibula demonstrating the nidus in a posterior cortical position with sclerotic bone reaction.
AP radiograph of the elbow of a 26-year-old female reveals an unusual nidus of an osteoid osteoma located in the epiphysis of the radial head. The matrix calcification and surrounding reactive bone formation is more typical for the radiographic appearance of a chondroblastoma which is more commonly found in this location.
16 yr female osteoid osteoma ulna

AP radiograph of the proximal forearm in a 16-year-old girl with a typical sclerotic bony response on the surface of the ulnar diaphysis secondary to a small, centrally located nidus of an osteoid osteoma.
On this bone isotope scan there is a hot pickup in the reactive bone around the nidus of an osteoid osteoma of the proximal ulna.
Radiographic appearance of a cortical osteoid osteoma in the distal diaphysis of the humerus in a 16-year-old male.
A 14-year-old boy presented with a history of painful scoliosis for 9 months. This AP radiograph of the lumbosacral spine shows a very subtle fuzzy osseous sclerosis of the central portion of the pedicle of L4 located on the concave side of the C-shaped curve of the spine.
On this isotope bone scan there is a definite pickup in the pedicle of L4 on the concave side of the curvature that was not as visible on routine X-ray.
This high power photomicrograph reveals evidence of benign osteoid formation created by aggressive osteoblasts with osteoclastic activity seen simultaneously, characteristic of the nidus of an osteoid osteoma. In this case the treatment was simple curettage and high-speed burring of the pedicle of L4. The pain was totally relieved within 24 hours.
A 15 year-old boy complained of low back pain for several months. This radiograph of the lumbar spine reveals diffuse sclerosis filling the central portion of the pedicle of L3 on the concave side of a slight C-shaped curve. The lumbar spine is the most common area for osteoid osteomas of the axial skeleton.
On this AP scanogram of a 46-year-old male it is difficult to make out a fuzzy lesion located in the pedicle of T9 on the left side.
There is very sharp pickup in the pedicle of T9 on the left side which represents the nidus of an osteoid osteoma.
This CT scan of the cervical spine of an 18-year-old male shows a radiolucent nidus within the pedicle of C3 on the right side with evidence of heavy mineralization within the central portion of the nidus that occurs as the lesion matures.
Another CT scan of the same lesion showing the nidus within the pedicle of C3 on the right side.
On this isotope bone scan, there is a sharp pickup of the isotope material in the right pedicle of C3. This lesion was treated with by a curettement and high-speed burring through a direct anterior approach.
Lateral radiograph of the cervical spine of a 12-year-old boy with an osteoid osteoma located in the spinous process of C3 vertebra. The central nidus measures about 10 mm in diameter and has the appearance of an aneurysmal bone cyst.
Lateral radiograph of the cervical spine of a 25-year-old male with an oseoid osteoma located centrally in the spinous process of the C5 vertebra. There is heavy calcification within the central portion of the nidus suggesting maturity of the lesion.
27 yr female with osteoid osteoma S-1

AP radiograph of the lumbosacral spine in a 27-year-old female with a fairly mature osteoid osteoma located in the pedicle of S1. There is evidence of dense sclerosis as the lesion becomes mature and less active.
AP radiograph of the sacrum of a 22-year-old male. An osteoid osteoma is located in the posterior elements of the lower portion of the sacrum with slight mineralization of the central portion of the nidus.
Photograph of the index finger of an 18-year-old male with an osteoid osteoma located on the proximal dorsal aspect of the distal phalanx associated with soft tissue swelling and local tenderness.
Lateral radiograph of the index finger showing the heavily mineralized nidus of an osteoid osteoma located at the base of the distal phalanx associated with soft tissue swelling.
AP radiograph of the same index finger.
Lateral radiograph of the thumb of a 24-year-old male with a sclerotic lesion located in the mid-portion of the proximal phalanx with evidence of a lytic nidus in the central area.
There is a sharp pickup of the isotope material in the proximal phalanx of the thumb.
This radiograph of the distal phalanx of the finger of a 19-year-old male shows a slightly aneurysmal lesion located in the central portion of the phalanx with evidence of fairly dense mineralization within the central portion of the nidus of an osteoid osteoma.
This radiograph of the thumb of a 20-year-old male shows an immature surface type osteoid osteoma on the volar aspect of the distal phalanx of the thumb.
This 17 year female presented with a one year history of dull aching pain in the index finger. On the x-ray we see a nidus surrounded by dense sclerotic bone and fusiform dilatation of the proximal phalanx. The nidus is heavily calcified showing maturity that suggests the lesion will burn out spontaneously in six months to a year without surgery.
On this laminargraphic AP radiograph of the wrist in a 20-year old male there is evidence of a mature osteoid osteoma located in the head of the capitate with a thin halo of radiolucency at the periphery and a central dense blastic response as the lesion matures.
AP radiograph of the wrist of a 25-year-old male with evidence of an osteoid osteoma in the navicular with a thin halo of inflammatory tissue at the periphery of the mature calcified nidus.
AP radiograph of the foot of a 34-year-old female showing a cortical osteoid osteoma in the distal second metatarsal immediately adjacent to the lateral sesamoid of the first toe that had caused pain in this area for five months.
On this CT scan a double nidus formation within the cortex of the dorsal aspect of the diaphysis of the second metatarsal bone can be seen in vivid detail.
Axial T2-weighted MR image with evidence of high signal inflammatory edema surrounding the entire distal portion of the second metatarsal bone as a response to the nidus of an osteoid osteoma.
This AP radiograph of the foot in a 24-year-old male reveals the nidus of an osteoid osteoma in the mid-portion of the proximal phalanx of the great toe with a considerable amount of ossification within the central portion of the nidus indicating maturity of the lesion.
Photograph of the resected phalanx demonstrates heavy mature ossification within the central portion of the nidus. The thin halo of inflammatory, tannish-appearing granulation tissue in the area created the painful symptoms that would probably disappear spontaneously within a period of six months. It is obvious that aggressive wide resection was overkill for this lesion.
Low power photomicrograph shows fairly mature woven bone ossification with extensive benign osteoblastic activity and minimal osteoclastic activity.
High power photomicrograph shows mature osteoid formation created by aggressive osteoblasts with a few remodelling osteoclasts.
Lateral radiograph of the ankle area of a 19-year-old male shows a lytic lesion near the surface of the talar neck/head juncture with slight dorsal aneurysmal expansion suggesting a surface type of osteoid osteoma.
High power photomicrograph shows osteoid formation by aggressive but benign osteoblasts in the nidus of an osteoid osteoma.
his AP radiograph of the knee of a 13-year-old boy shows an inflammatory lytic area in the proximally tibial metaphysis measuring 1 cm in diameter with a halo of reactive inflammatory osteitis measuring 1-2 cm in girth suggesting the diagnosis of an osteoid osteoma. On biopsy it was determined to be a Brodie's abscess.
Lateral radiograph of the proximal tibia shows the inflammatory nidus of a Brodie's abscess with a tunnel burrowing posteriorly and proximally across the growth plate which rules out the diagnosis of an osteoid osteoma and suggests the diagnosis of hematogenous osteomyelitis.
This AP radiograph of the distal tibia of a 13-year-old boy reveals an inflammatory lytic process in the lateral cortex of the distal tibial diaphyseal-metaphyseal juncture with two separate foci that would suggest the diagnosis of an intracortical osteoid osteoma but in fact the pathological diagnosis was a Brodie's abscess.
On this transaxial projection T2-weighted MR image there is an inflammatory lytic granuloma located in the lateral cortex of the distal tibia with extensive subperiosteal and medullary edema consistent with the diagnosis of a Brodie’s abscess looking like an osteoid osteoma.
AP radiograph of the right hip of a 38-year-old male shows a blastic lesion located at the base of the neck of the femur. There is a central lytic area that suggests the nidus of an osteoid osteoma but on more careful observation reveals a stress fracture extending completely across the neck of the femur.
The bone isotope scan shows a hot pickup of the isotope material in the area of the stress fracture at the base of the neck of the femur creating the image of what could be diagnosed as an osteoid osteoma.
Osteoid osteoma pseudotumor
33 year female

Early stress fracture femoral neck with pain for 3 mos

AP radiograph of the proximal femur of a 33-year-old female with symptoms of pain for the prior three months demonstrates no abnormality.
In the bone isotope scan taken at the same time as the prior X-ray, note hot pickup at the neck of the femur suggestive of the diagnosis of a stress fracture.
AP radiograph of the hip taken one month later now shows evidence of a lytic area at the base of the calcar with an inflammatory-appearing halo of reactive osteitis suggesting the diagnosis of an osteoid osteoma.
A 50-year-old female runner presented with a two month history of hip pain. This AP radiograph of the hip joint shows evidence of a lytic lesion located at the base of the neck of the femur with a small area of calcification in the central area that might suggest the diagnosis of an osteoid osteoma.
On this transaxial projection T2-weighted MRI there is extensive edema throughout the neck of the femur around an area of a thin-walled bone cyst the result of a stress fracture through the femoral neck in an area of a pre-existing bone cyst.
Coronal T2-weighted MRI shows a stress fracture line running vertically through the neck of the femur surrounded by extensive edema in the marrow and evidence of periosteal edema outside the neck of the femur as well. Her symptoms of pain resolved spontaneously after two months on crutches.
This 20 year old male developed pretibial pain 3 months ago for which this x-ray was obtained that reveals a transverse radiolucent line in the anterior tibial cortex that could be thought of as the nidus of an osteoid osteoma, but in this case we are dealing with a chronic stress fracture line.
On this sagittal MRI study one can see the stress fracture line with surrounding cortical hypertrophy and inflammatory edema similar to that seen as a reaction to the nidus of an osteoid osteoma. These stress fracture lines may persist for a long period of time and may require a surgical debriedment and packing with autogenous cancellous bone graft.
AP radiograph of the proximal femur of a 14-year-old basketball player shows evidence of dense sclerotic reactive bone extending over approximately three inches of the medial cortex of the upper femur as a response to an adductor muscle pull from playing basketball. The symptoms of pain that had plagued the boy for several months disappeared spontaneously with three months of rest.
This axial CT scan through the proximal femur demonstrates dense reactive bone formation on the medial cortex of the femur as a response to trauma. The lack of a nidus rules out the diagnosis of an osteoid osteoma.
The bone isotope scan shows a hot pickup of isotope material in the medial cortex of the femur which could be seen with osteoid osteoma as well as a traumatic traction injury to the medial cortex of the femur.
This AP radiograph of the hip joint in a 38-year-old male reveals a blastic lesion in the outer neck of the femur suggesting the diagnosis of a possible burn-out osteoid osteoma plus a second blastic lesion located in the wing of the sacrum without a nidus in the central area. These lesions were picked up as incidental findings for X-rays taken looking for trauma. These are bone islands looking a bit like osteoid osteomas.
On the bone isotope scan there is evidence of a small focal pickup in the area of bone island in the neck of the femur that could confuse the diagnosis of an osteoid osteoma.
On this coronal view T1-weighted MRI study we can see the low signal feature of dense dysplastic bone secondary to a bone island with absolutely no evidence of any inflammatory edema in the surrounding marrow ruling out the diagnosis of an osteoid osteoma.