

İyi Huylu Yumuşak Doku Tümörleri ve Tümör Benzeri Lezyonlar

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Genel Bilgi

- Kötü huylu tümörlerden yaklaşık 100 kat siktir.
- Genellikle yavaş büyürler.
- En sık şikayet şişliktir.
- Bir kısmı sadece takip edilir.
- Tek parça halinde temiz bir şekilde çıkarmak tedavi için genelde yeterlidir.
- Bazı tipleri (Desmoid tümör, Pigmente vilvonodüler sinovit vs)sık tekrarlar
- MR: Periferal kontrastlanma

RIM SIGN (BENIGN TM)

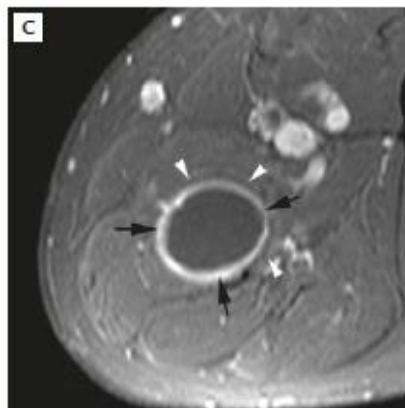
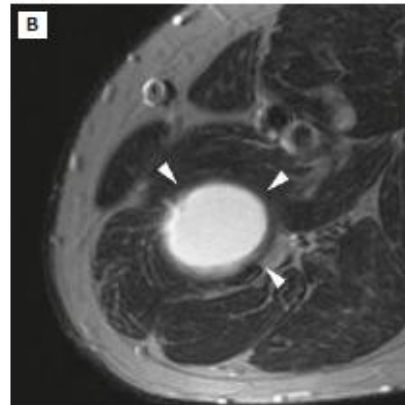
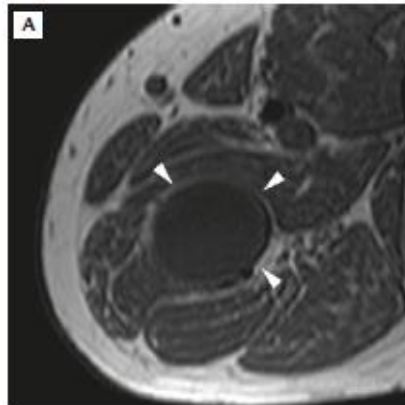


Figure 4. Demonstration of fat rim sign in benign neurogenic tumor in the arm of a 61-year-old woman. Magnetic resonance imaging showed the cystic nodule: (A) surrounded by high signal rim on axial T1-weighted imaging (arrowheads); and (B) moderate high signal on axial T2-weighted imaging (arrowheads), suggestive of fat signal. (C) Contrast-enhanced axial T1 imaging with fat saturation demonstrated that the signal of the rim was suppressed (arrowheads), and there was another inner contrast-enhancing rim, which was found to be the cellular component of the tumor on histologic examination (arrows).

Tipler

- Lipom
- İntramusküler hemanjiom
- Schwannom
- Nodüler fasiit
- İntramusküler miksoma
- Desmoid tümör
- Elastofibroma
- Glomus tümör
- Sinovyal kondromatozis
- Pigmente vilvonodüler sinovit
- Dev hücreli tendon tümörü
- Miyositis ossifikans

Lipom

- 40-60 yaş arası sık
- Yumuşak, ağrısız ve hareketli kitle
- %8 çoklu yerleşimli
- Biyopsiye gereksinim olmadan MR ile tanı konulabilir
- <%5 eksizyon sonrası tekrarlayabilir
- Kötü huyluya dönüşüm beklenmez

İNTRAMUSKÜLER LİPOMA

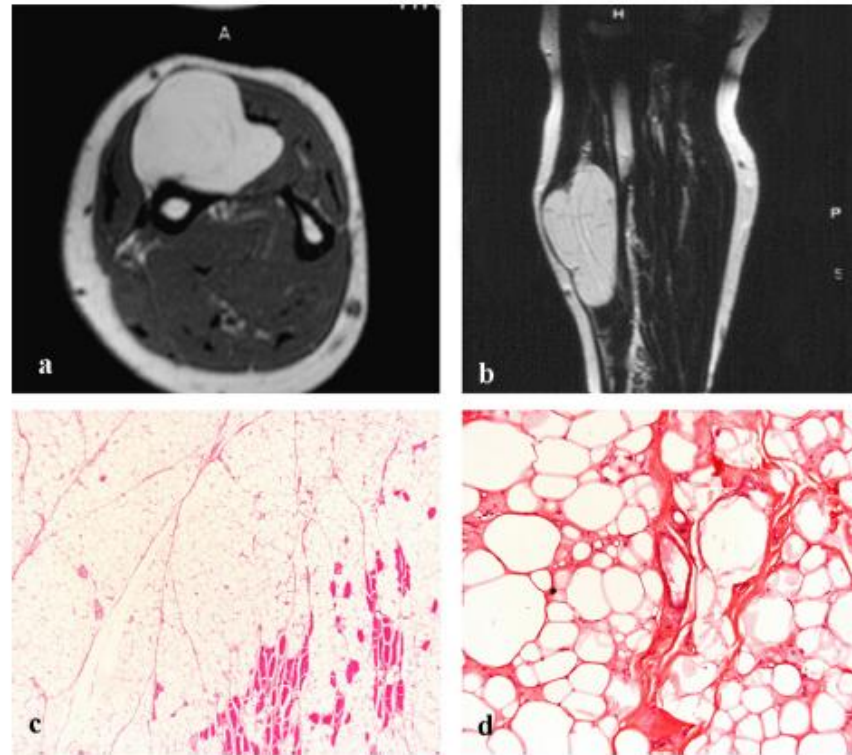
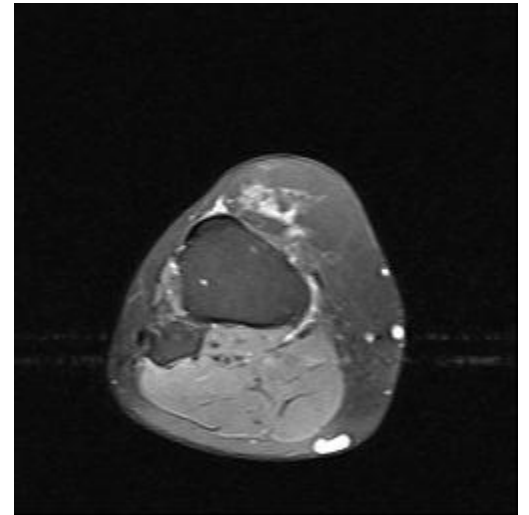
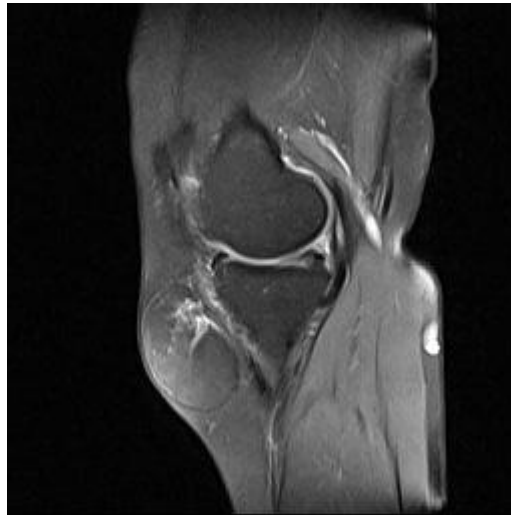
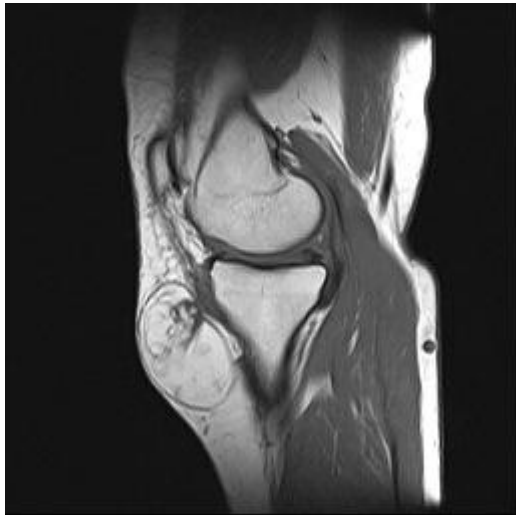
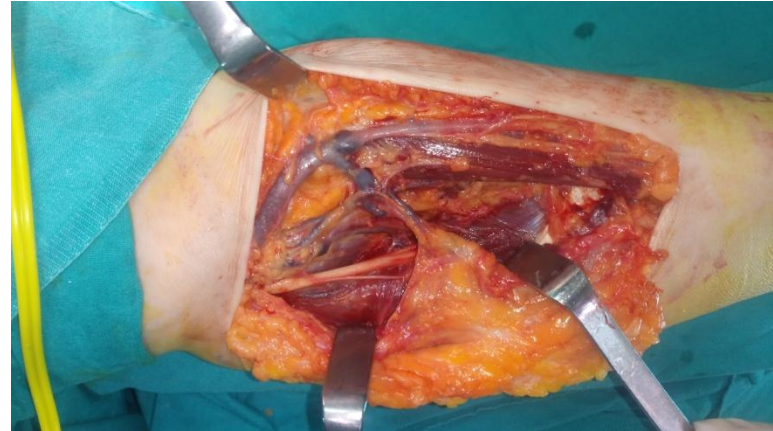
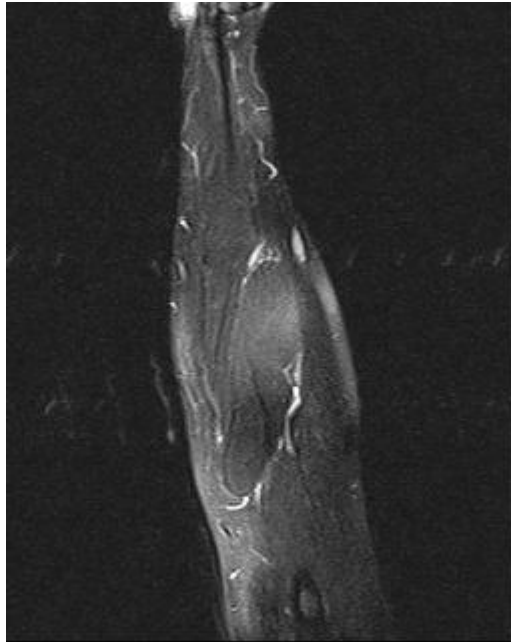
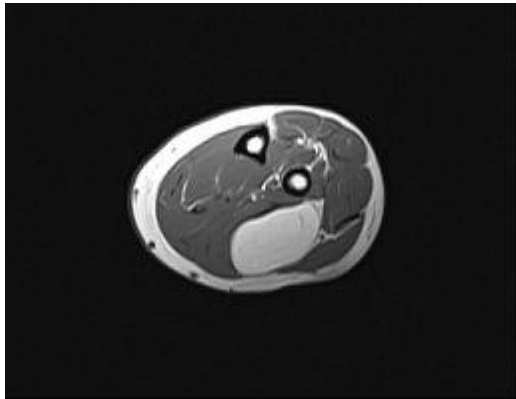
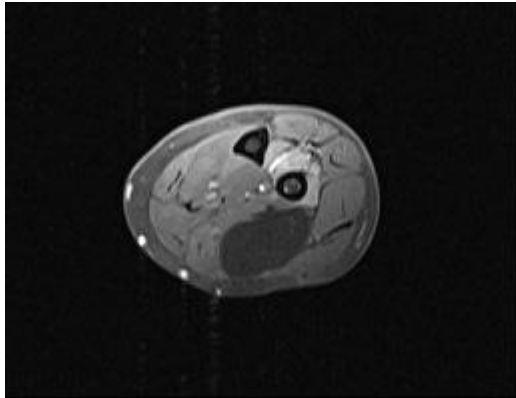


Fig. 3. Intramuscular lipoma. (a) Transverse T2-weighted spin-echo MR: tumour of the anterior compartment of the leg with a high signal intensity identical to that of the subcutaneous adipose tissue. (b) Sagittal T2-weighted plane: hyperintense lesion with thin and regular septa. (c) Histologically, proliferation of mature adipose tissue infiltrating muscle fibre visible at the periphery (HES, 40 $\times$). (d) At higher magnification, mature adipocytes separated by thin fibrous septae without atypical cells (HES, 400 $\times$).

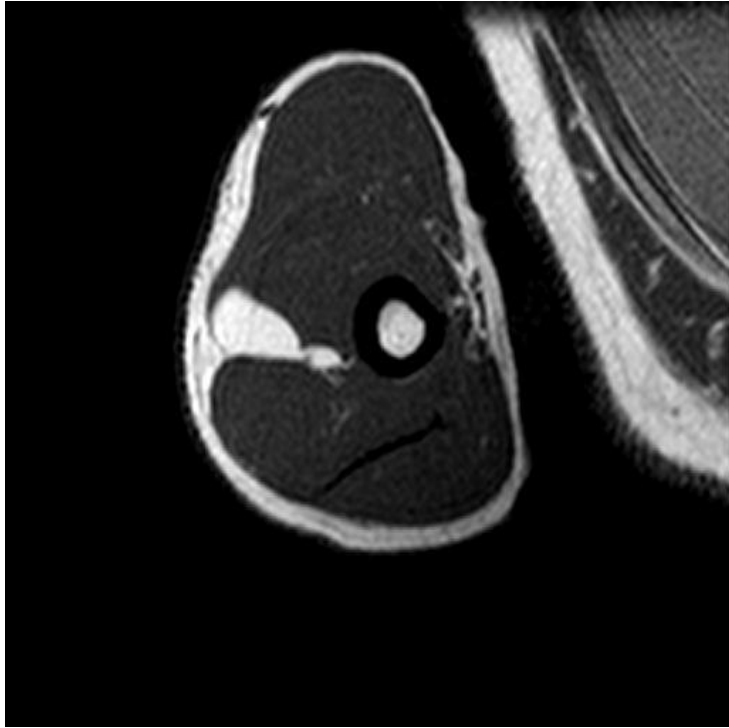
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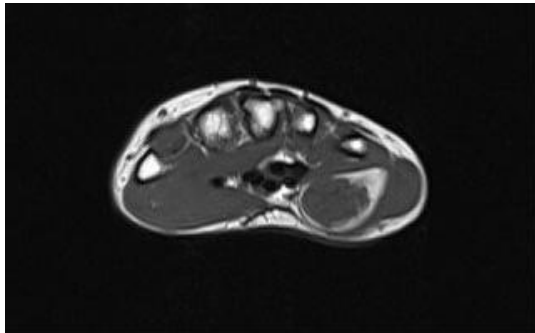
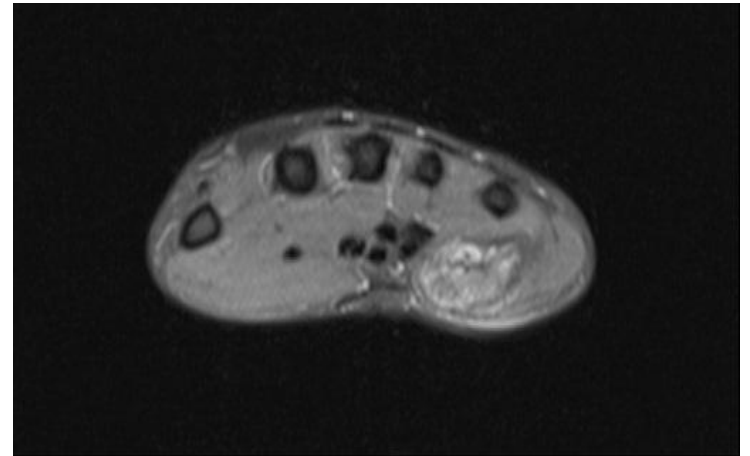
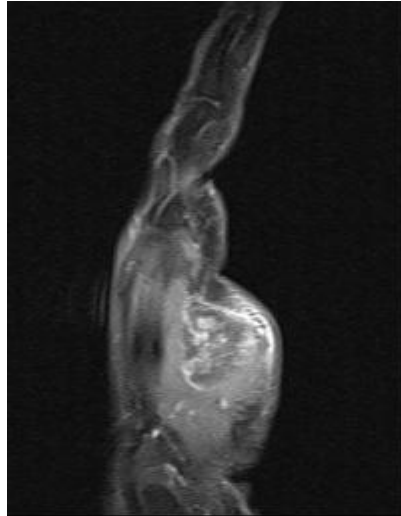
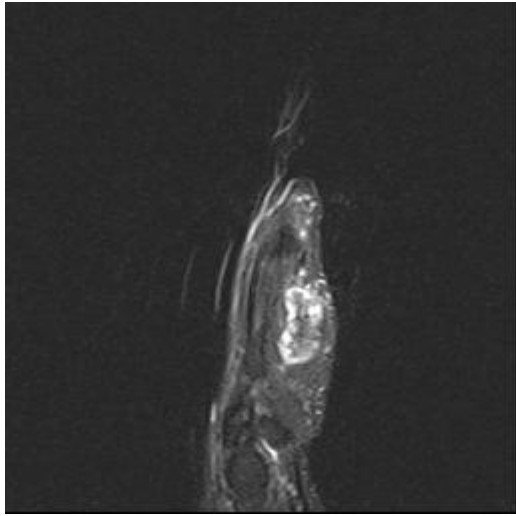
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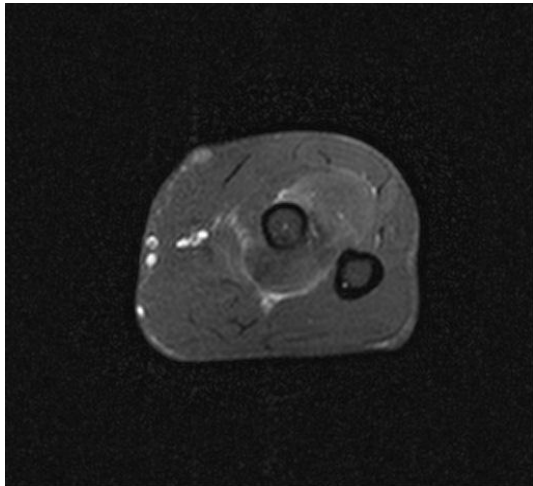
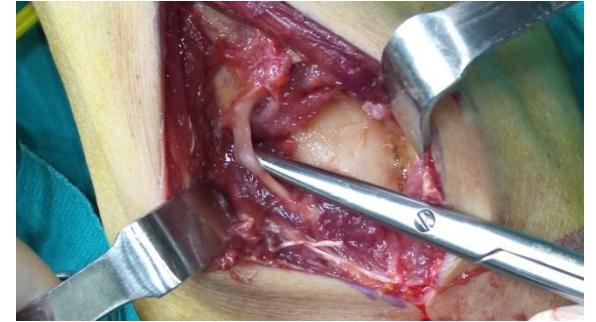
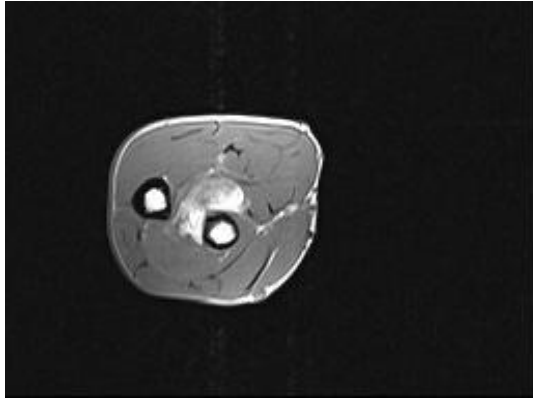
LIPOM



FIBROLIPOM



FIBROMYXOLIPOM



Intramusküler Hemanjiom

- Damar kaynaklı
- Sıklıkla 30 yaş altı hastalar
- Hormonal değişiklik ve gebelikte boyut değişebilir
- Aktivite sonrası ağrı gelişebilir
- Direkt grafide kalsifikasyon görülebilir.
- Genellikle konservatif (ağrı kesici, bandaj vs) takip edilir.
- Bazı lezyonlara embolizasyon uygulanabilir.
- Ameliyat sonrası tekrarlama riski yüksektir

İNTRAMUSKÜLER HEMANJİOMA

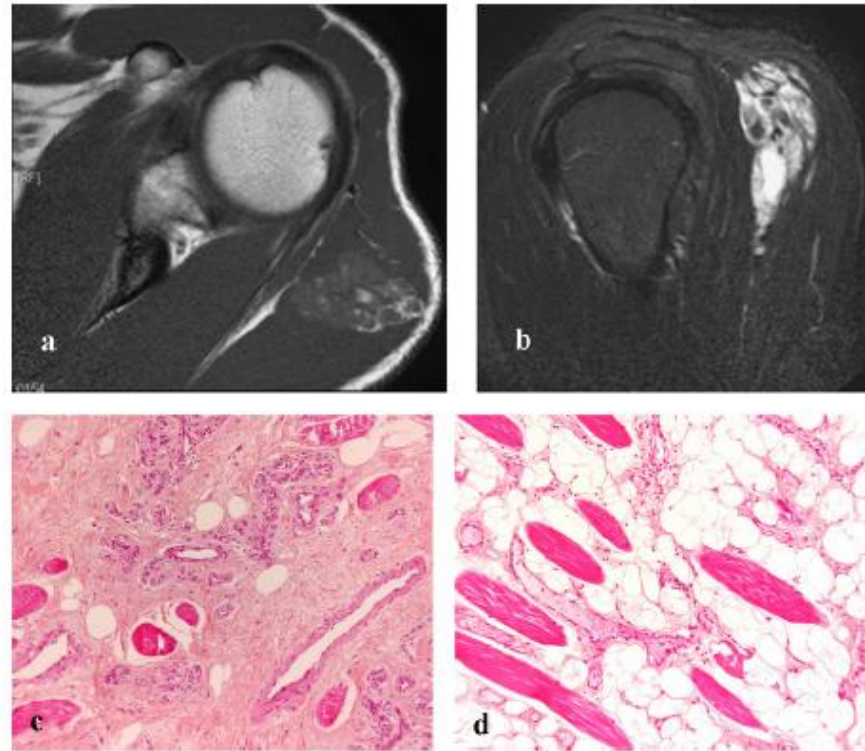


Fig. 2. Intramuscular hemangioma. (a) Left shoulder transverse T1-weighted spin-echo MR: ill-defined pseudotumour of posterior bundle of deltoid muscle with adipose and solid components. (b) Sagittal Short Time Inversion Recovery: hyperintense lesion with high-flow vascular structures without signal. (c) Histologically, vascular proliferation involving the muscle, often arranged in lobules, made of capillaries and larger vessels, without endothelial atypia, in a fibrous background (see muscle fibre within the lesion) (HES, 100 $\times$). (d) Vascular proliferation associated with an adipose background which can predominate and lead to an erroneous diagnosis of intramuscular lipoma (HES, 100 $\times$).

HEMANGIOMA

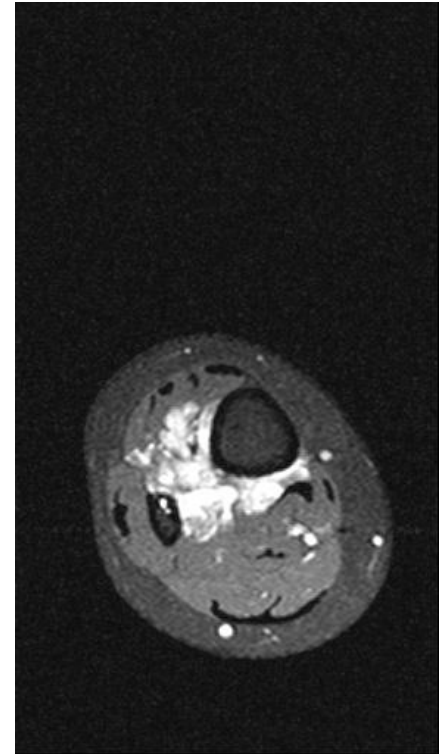


Fig. 7: Haemangioma. MRI shows characteristic serpiginous high signal which insinuates around soft tissue structures. The phleboliths seen on the x-ray are surprisingly difficult to

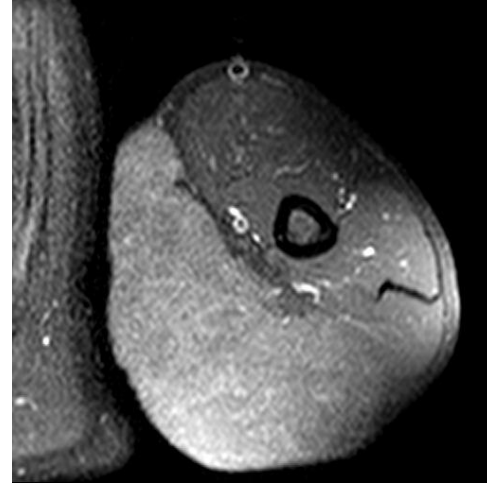


Figure 1. Vascular malformation with phleboliths. (a) Lateral (left) and posteroanterior (right) radiographs show a hemangioma in the volar compartment of the forearm. The hemangioma contains multiple calcified phleboliths. (b) Sagittal T1-weighted (left) and T2-weighted fat-saturated (right) magnetic resonance (MR) images show the serpentine high T2 signal intensity characteristic of a hemangioma. There is also interspersed fat and rounded low-signal-intensity areas (arrow), which are related to the phleboliths.

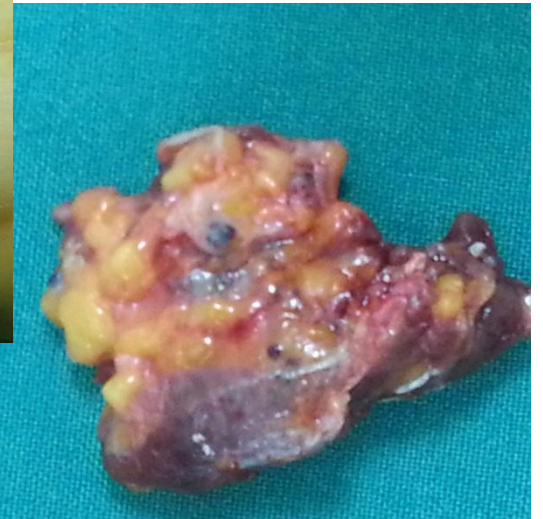
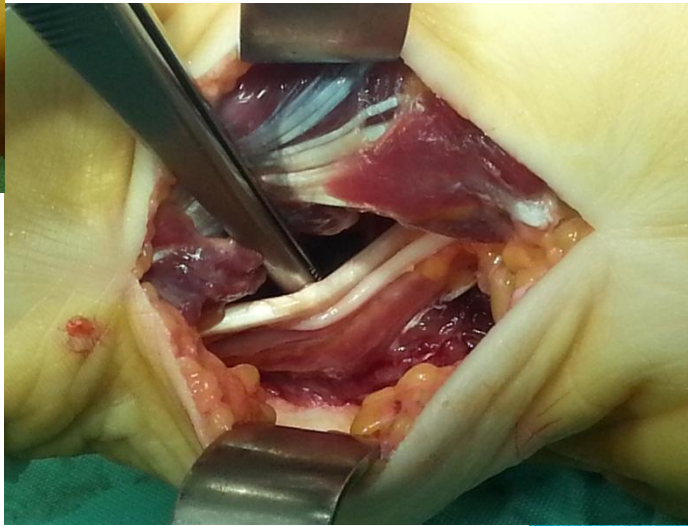
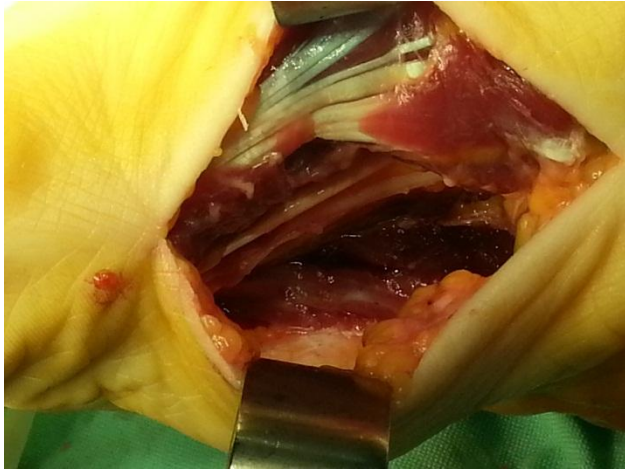
HEMANGIOMA



HEMANJİOM



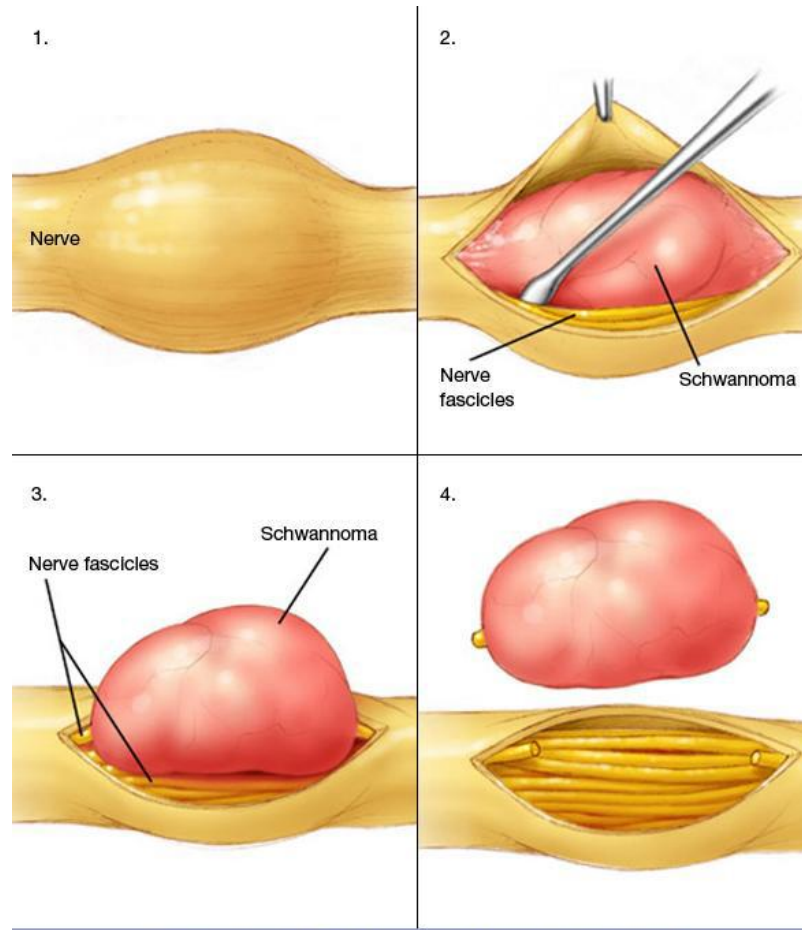
AV MALFORMASYON



Schwannoma

- 20-50 yaş sık
- Sinirin motor ya da duyu dalı kaynaklı
- Ağrı ve uyuşma şikayeti
- Genetik alt yapısı olabilir
- Nadiren çoklu yerleşimli
- Çoğu zaman takip edilir
- Kaynaklandığı ana sinire zarar vermeden çıkarılmalı
- Çıkarıldıktan sonra uyuşukluk devam edebilir

SCHWANNOMA



SCHWANNOMA

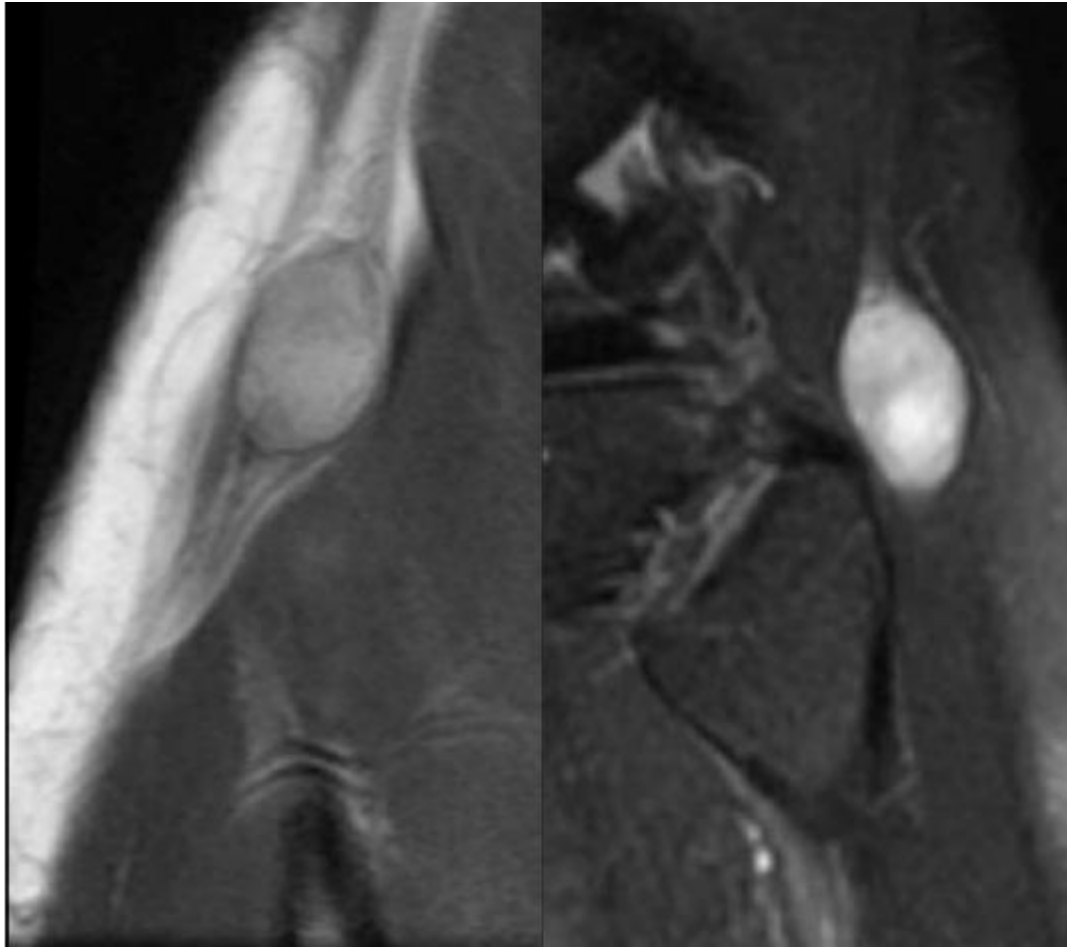
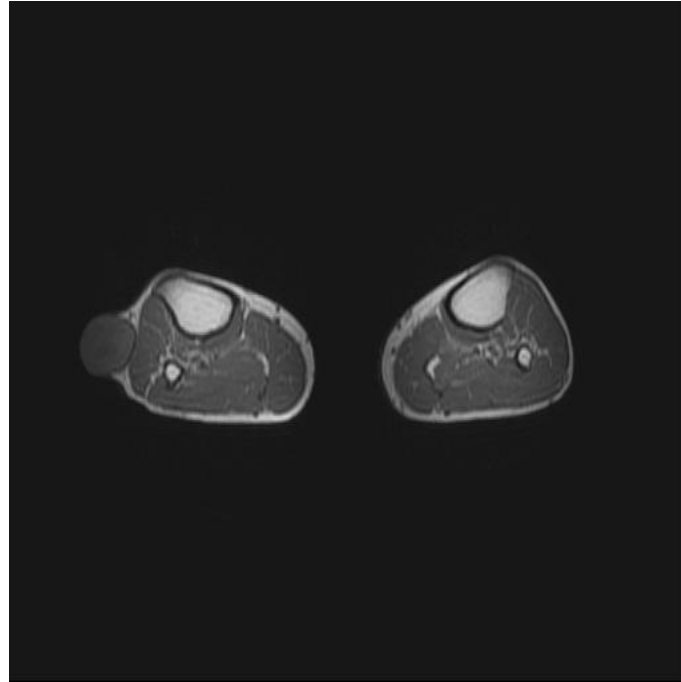
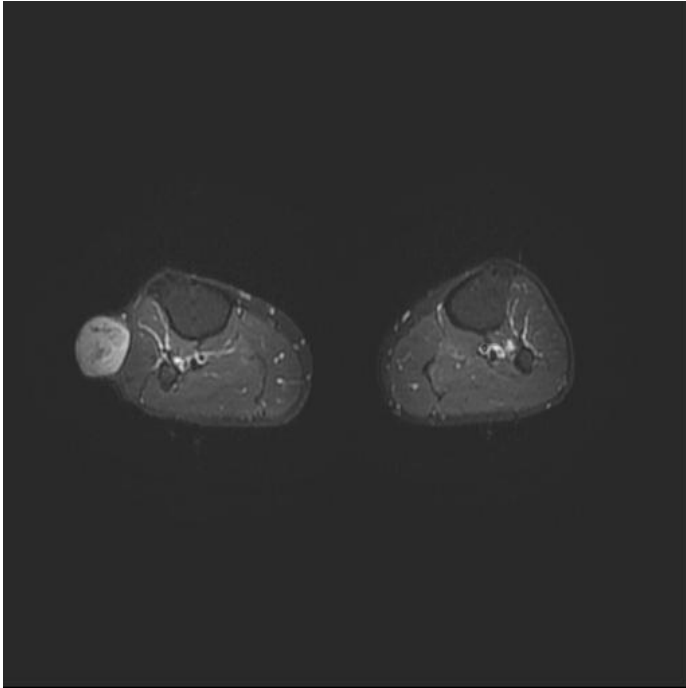
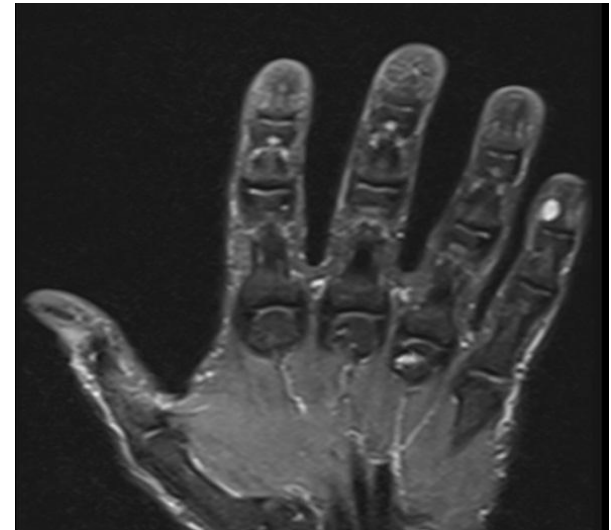


Fig. 9: Peripheral nerve sheath tumour. PD and PD FS sequences from a routine knee MRI. This ovoid lesion clearly has nerve fibres running directly into its proximal and distal aspects, and is along the course of the common peroneal nerve.

SCHWANNOMA

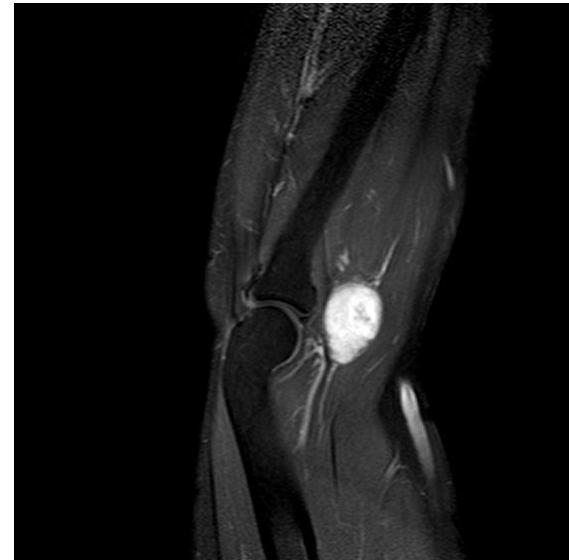
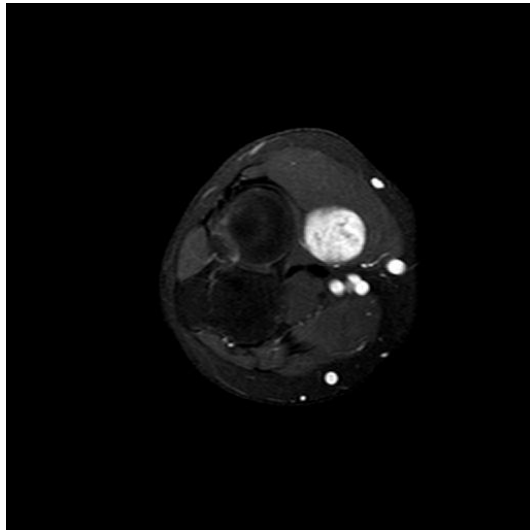
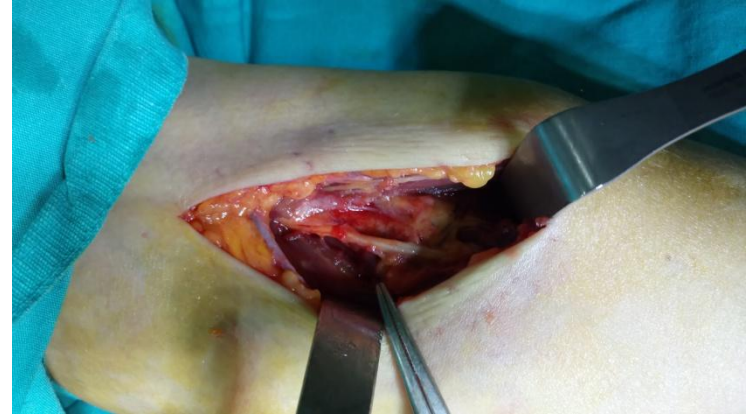


SCHWANNOM



Schwannom

Marjinal Eksizyon



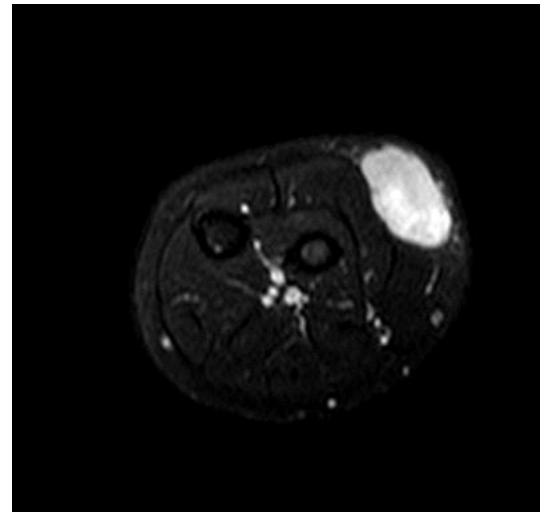
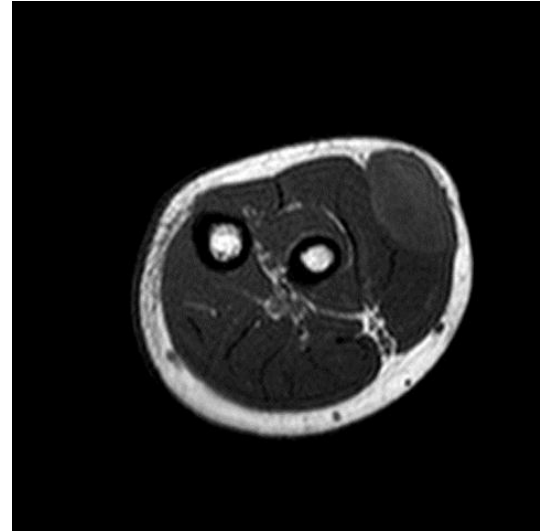
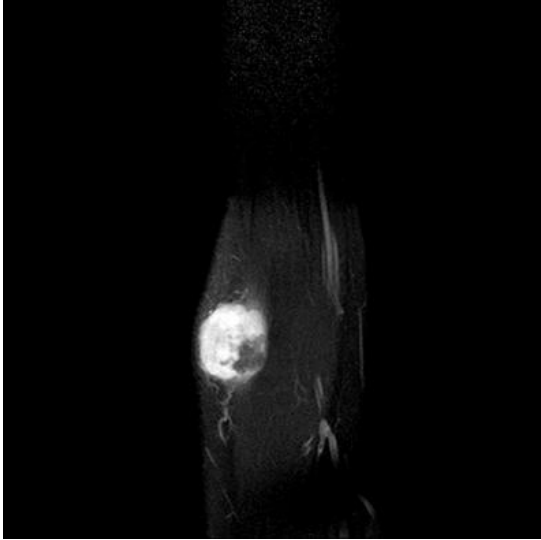
Nodüler Fasiit

- En sık fibröz yumuşak doku tümörü
- Kendini sınırlayan reaktif lezyondur
- 20-40 yaş arası sık
- Hızlı büyüyen ağırlı kitle
- Tek ve genellikle yüzeyledir
- Düzgün sınırla çıkarılması yeterlidir
- Kötü huya dönüşüm beklenmez

Ayak Bileği Nodüler Fasiit



Ön Kol Nodüler Fasiit



İntramusküler Miksoma

- 40-70 yaş arası
- Kadınlarda sık
- Ağrısız kitle
- Tek lezyon
- Damar-sinir yapılarına yakın yerleşim
- Fibröz displazi ile beraberlik (Mazabraud sendromu)
- İyi sınırla çıkarılması yeterlidir
- Çok nadiren tekrarlayabilir

Intramuskulärer Myxoma

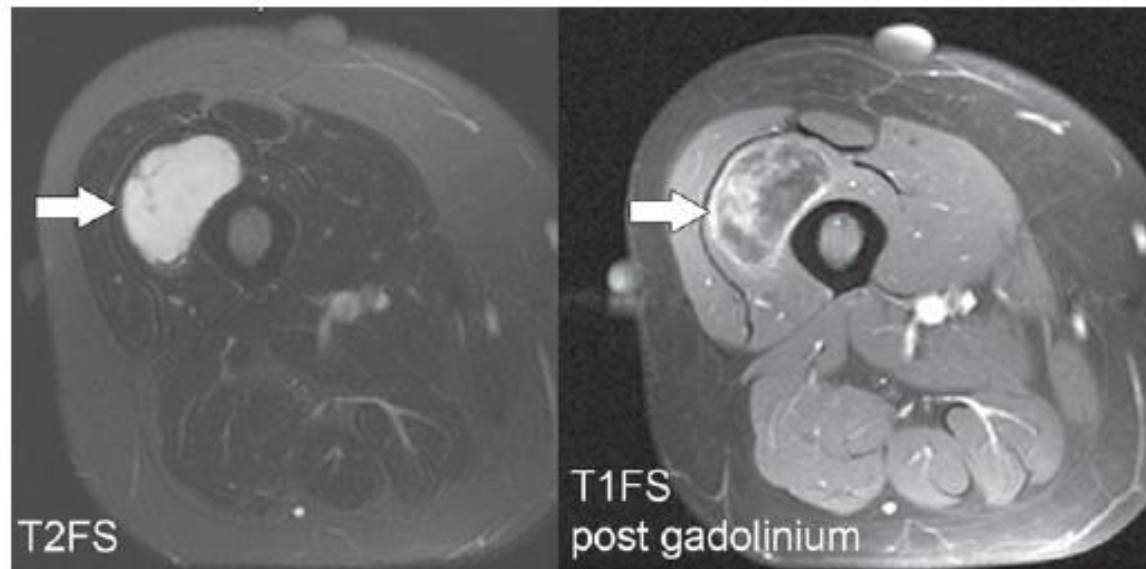
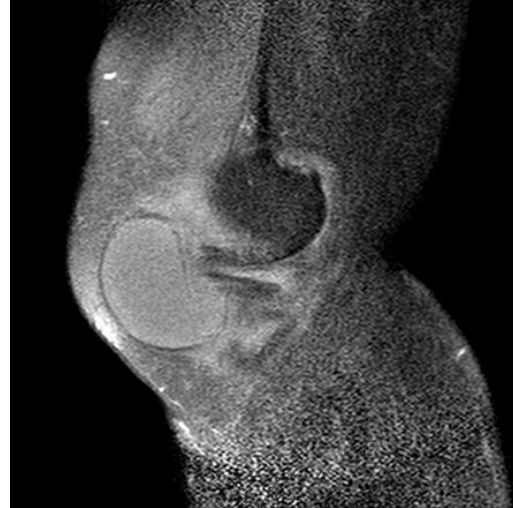
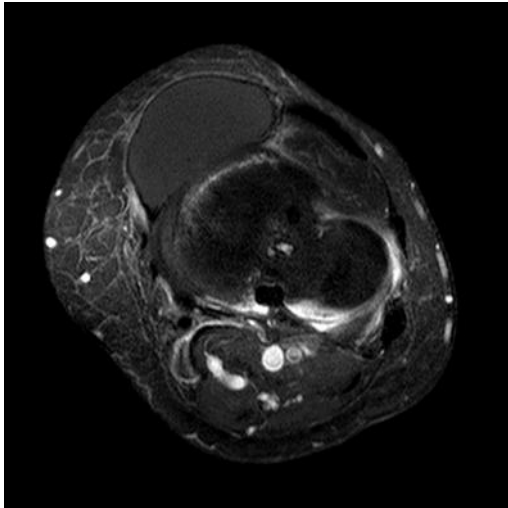
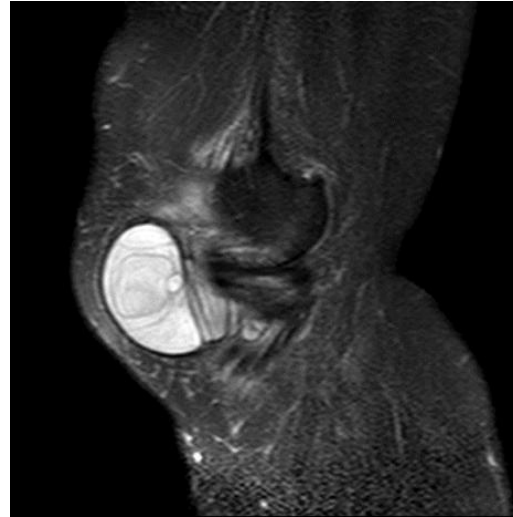
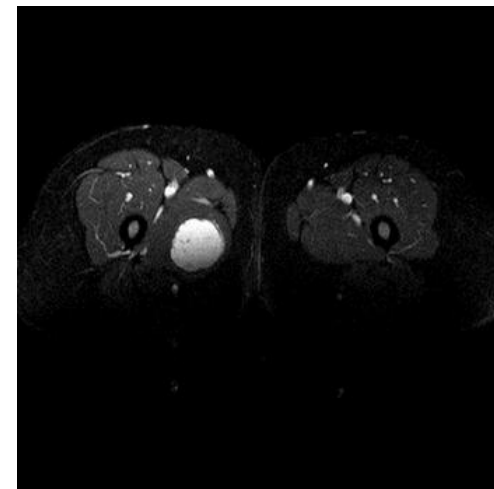
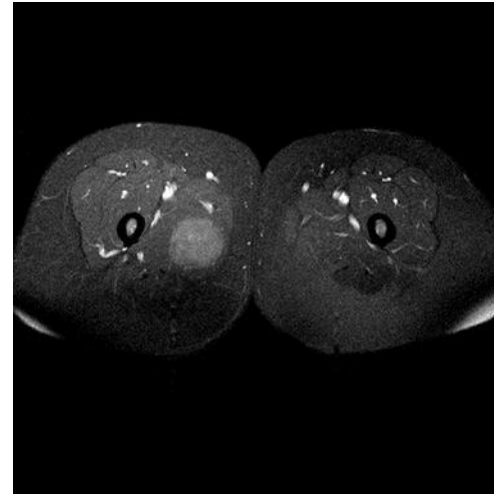


Figure 8. Myxoma. Left: Axial T2-weighted fat-saturated MR image shows a high-signal-intensity lesion (arrow) in the right thigh. Right: Axial gadolinium-enhanced T1-weighted fat-saturated MR image shows diffuse enhancement of the lesion (arrow); the enhancement is more prominent centrally. These findings are consistent with a solid lesion rather than a cyst.

Diz Medial Miksoma



Uyluk Medial Miksoma



Desmoid Tümör

- Lokal agresif ve sık tekrarlama özelliğinde
- 15-40 yaş sık
- Kadınlarda sık
- Genetik alt yapı (fibromatozis, Gardner sendromu)
- Sert, ağrısız, hareketsiz ve derin yerleşimli kitle
- Komşu kemikte yıkıma neden olabilir
- Kesin tedavisi yok
- Takip, cerrahi, radyoterapi, ağrı kesiciler, kemoterapi ajanları vs

Desmoid Tümör (Fibromatozis)

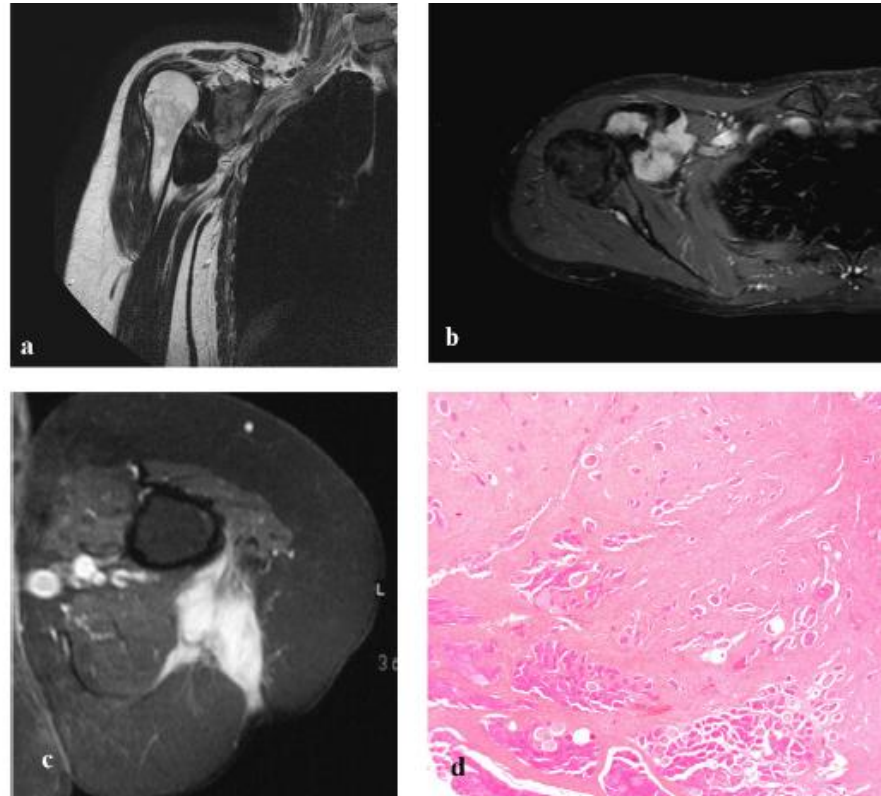


Fig. 5. Deep fibromatosis. (a) Coronal T2-weighted spin-echo MR of the right scapula girdle: infiltrative lesion along the brachial plexus with two components: one intermediate signal and one with a hypointense band corresponding to fibrous tissue. (b) Same patient, transverse fat saturation T1-weighted spin-echo MR after contrast administration: typical hypointense zone corresponding to fibrous signal admixed with hyperintense zone corresponding to a vascularised component (active zone). (c) Transverse fat saturation T1-weighted spin-echo MR after administration of contrast: infiltrative intermuscular lesion with spreading along aponeurosis and expansion of the subcutaneous tissue with skin retraction. (d) Histologically, low to moderate cellular proliferation composed of myofibroblasts without atypia arranged in long bundles infiltrating and dissociating the muscle fibres. Stroma is often collagenous (HES, 40 $\times$).

Desmoid Tümör

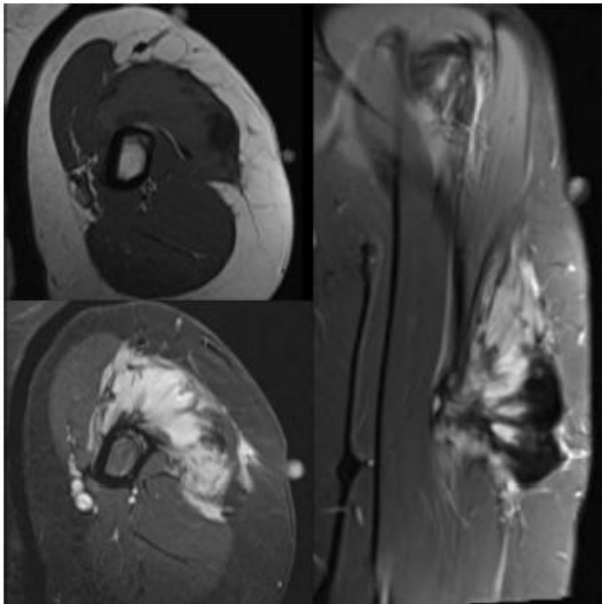
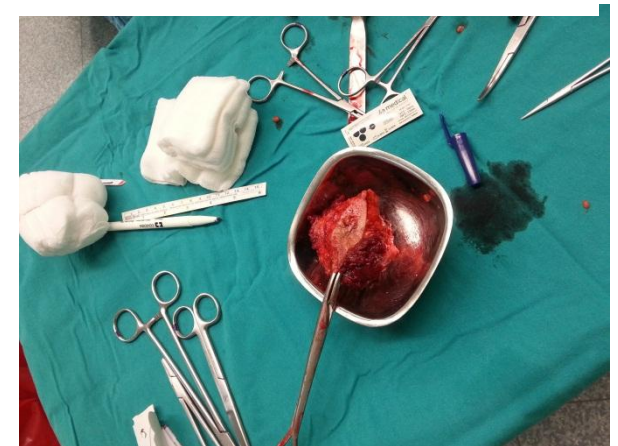
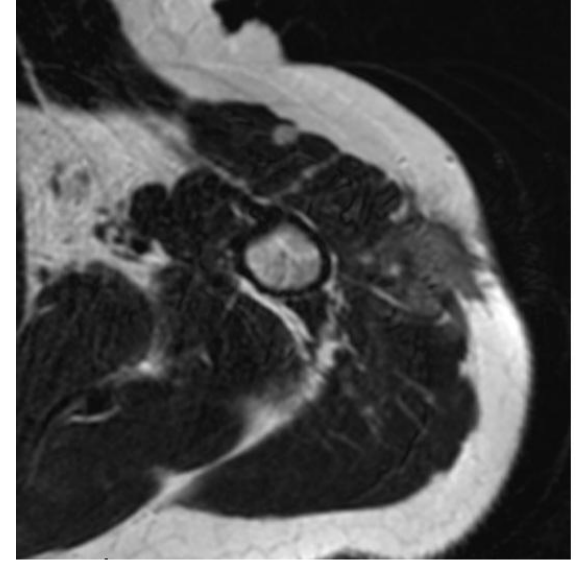
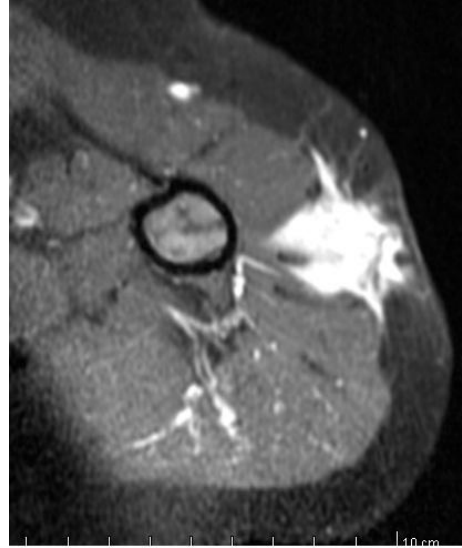
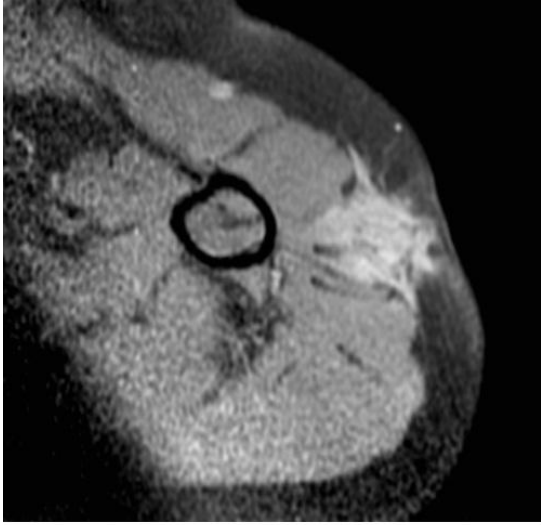


Fig. 12: Fibromatosis. T1 and post gadolinium T1 FS axial images show an infiltrative, but otherwise well defined mass centred on fascia and sending tongues of tumour into the adjacent tissues. Little edema is seen on the coronal STIR image. Signal is heterogenous with large areas of low signal on all sequences representing the acellular, inactive part of the tumour. This component tends to increase with time and treatment.



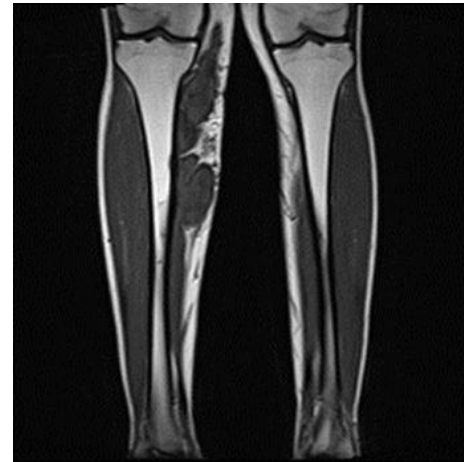
Fig. 2. Desmoid tumor. Coronal, T1-W (A) and fast spin-echo, T2-W, fat-suppressed images (B) of the hand in a 4-year-old girl demonstrate a lobulated mass that developed after resection of a duplicated thumb. (Courtesy of Shriners Hospital for Children Northern California, Sacramento, CA.)

DEZMOİD TÜMÖR



Nüks Dezmoid Tümör

Geniş Rezeksiyon-Fiksasyon-Gastro Flep



Elastofibroma

- 60-80 yaş
- Tümör benzeri reaktif lezyon
- Skapula ile göğüs duvarı arasında yerleşir
- Kadınlarda sık
- Ailesel yatkınlık mevcut
- Tekrarlayan travmalar nedeniyle gelişebilir
- Sert, fikse lezyon
- Semptomatik tedavi edilir
- Nadiren eksizyon gerekebilir

ELASTOFIBROMA

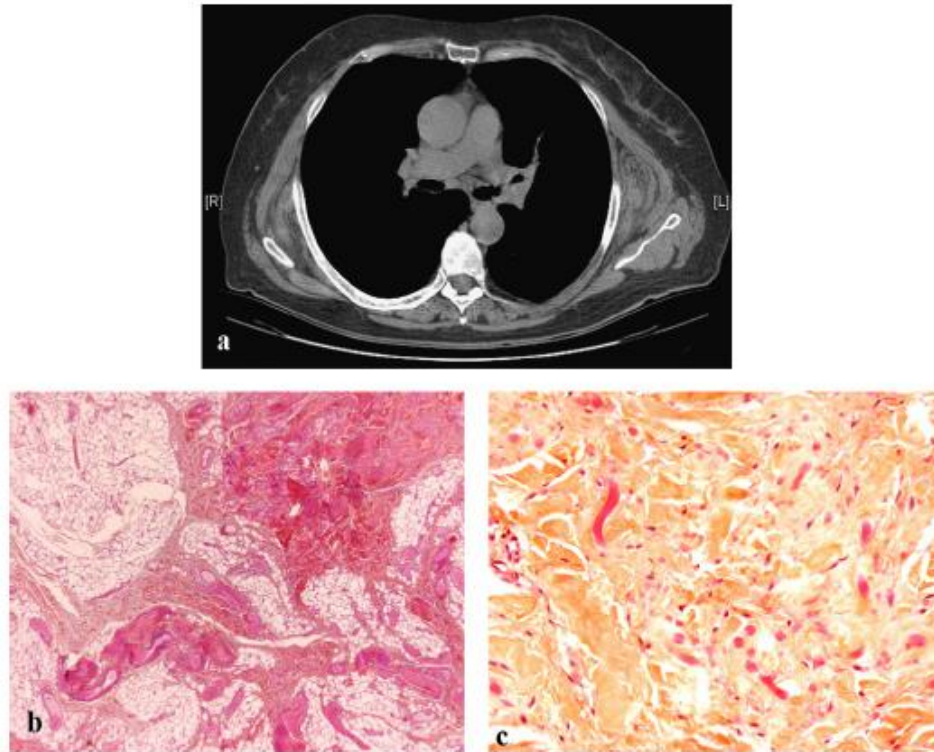
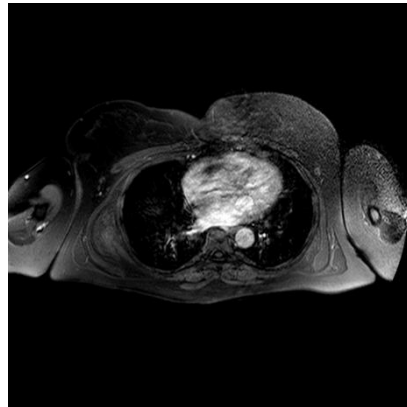
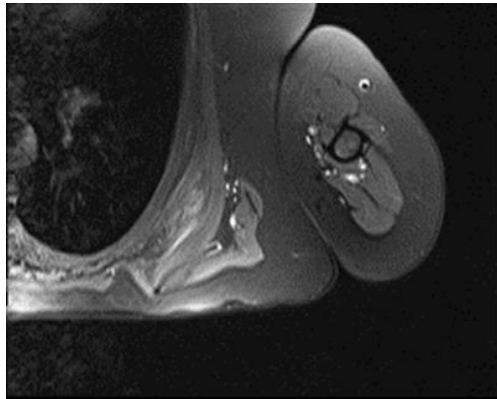
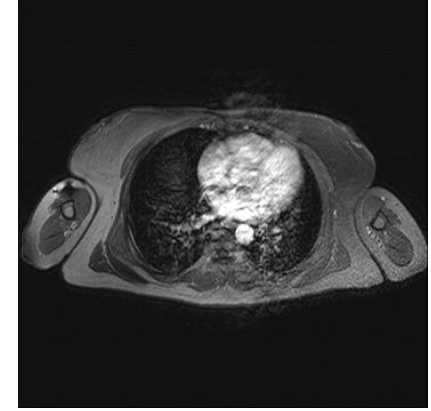
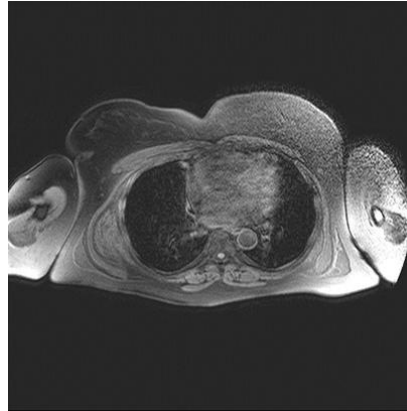
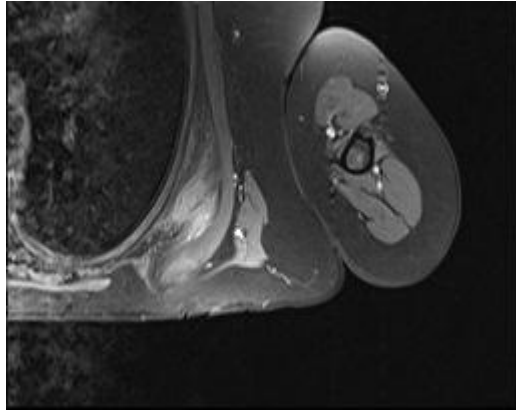


Fig. 6. Elastofibroma. (a) CT scan without contrast injection of the thorax: bilateral striated appearing lesions in the scapula fossa composed of adipose tissue interdigitating within fibrous tissue. (b) Histologically, presence of an admixture of mature adipose tissue and fibrous zones (HES, 40 $\times$). (c) At higher magnification, the fibrous zones are composed of sparse fibroblasts in a collagenous stroma with dystrophic and fragmented elastic fibres arranged in globules (chenille bodies) (HES, 400 $\times$).

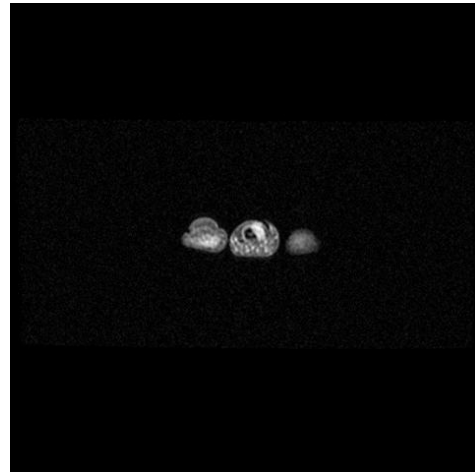
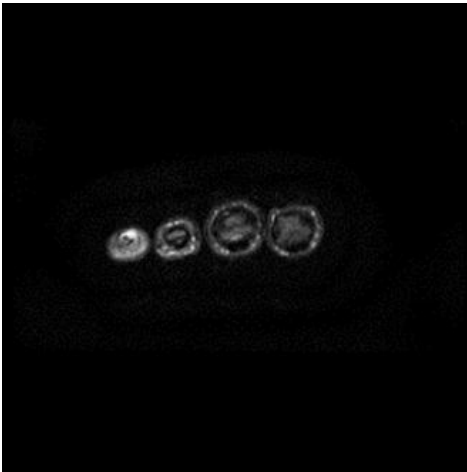
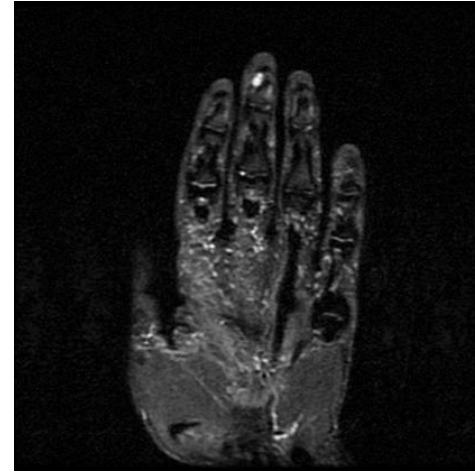
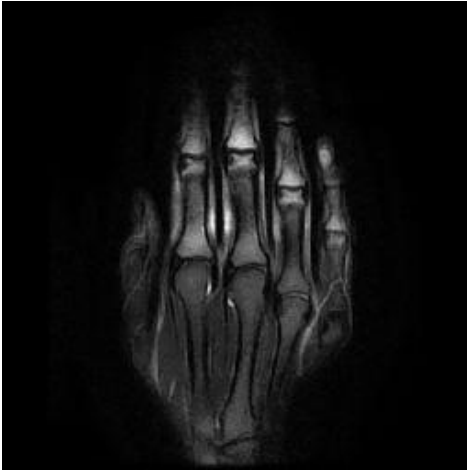
Elastofibroma Dorsi Vaka Örnekleri



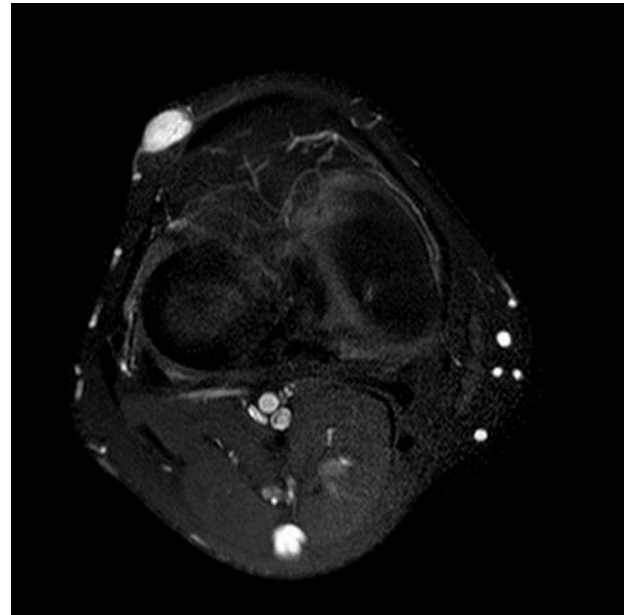
Glomus Tümörü

- Vasküler kaynaklı bir tümör
- Sıklıkla tırnak altı yerleşir
- 20-40 yaş sık
- Tırnakta lokal renk (mavi) değişikliği
- Aralıklı ağrı, soğuk intoleransı ve hassasiyet
- İyi sınırlardan çıkarılması yeterli

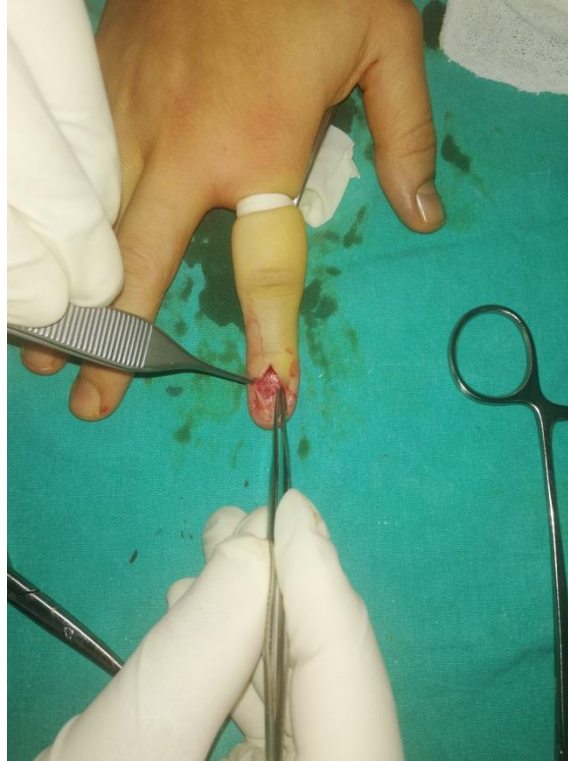
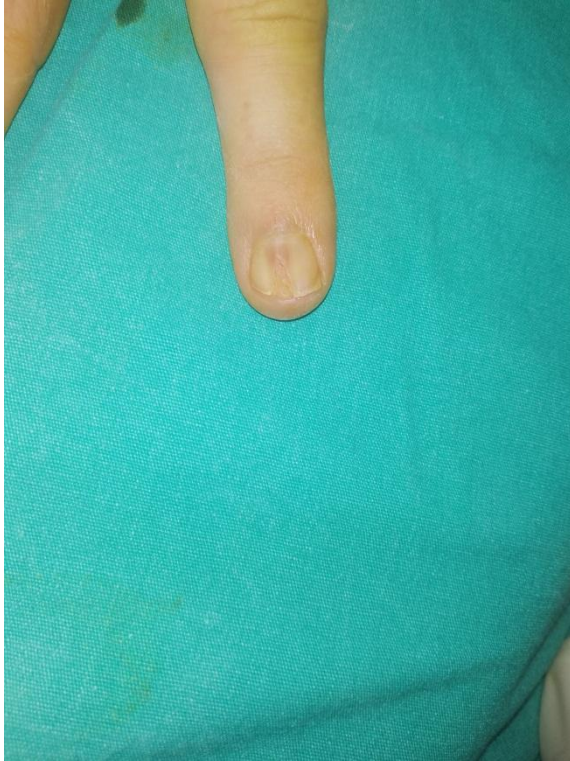
El Yerleşimli Glomus Tümörü



Diz Önünde Glomüs Tümörü



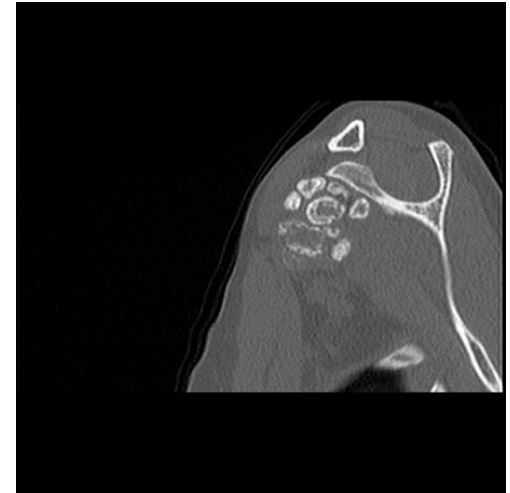
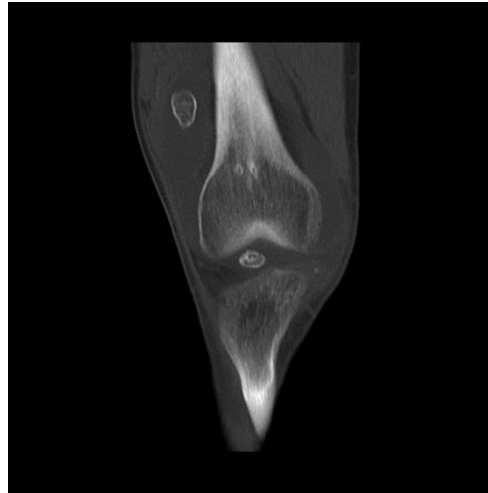
El 5. Parmak Glomus Tümör Eksizyonu



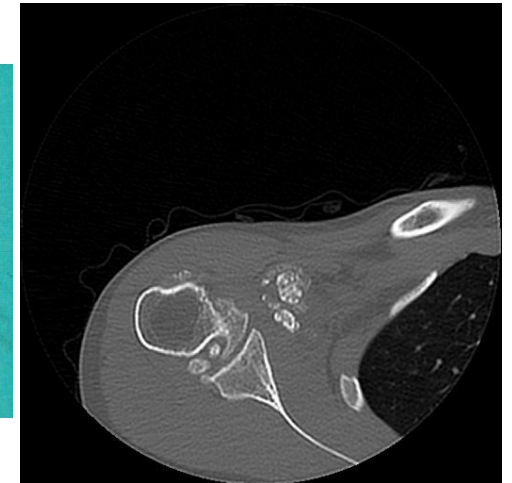
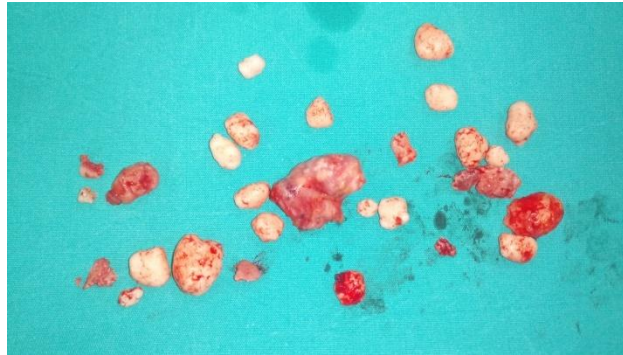
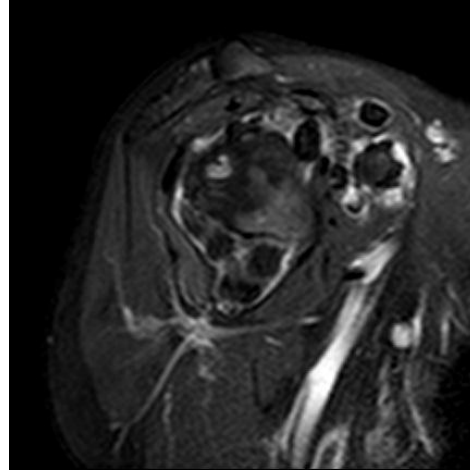
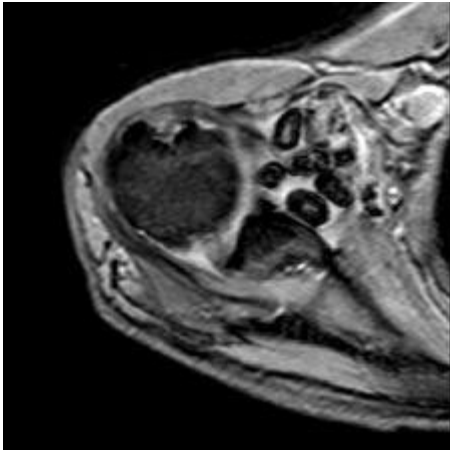
Snovyal Kondromatozis

- Snovyadaki hiyalin kıkırdagın metaplastik proliferasyonudur
- 30-50 yaş erkeklerde sık
- Eklemde ağrı, şişlik ve hareket kısıtlılığı
- En sık kalça, diz, omuz ve dirsekte oluşur
- Eklemde yıkıma neden olabilir
- Artroskopik ya da açık çıkarılabilir

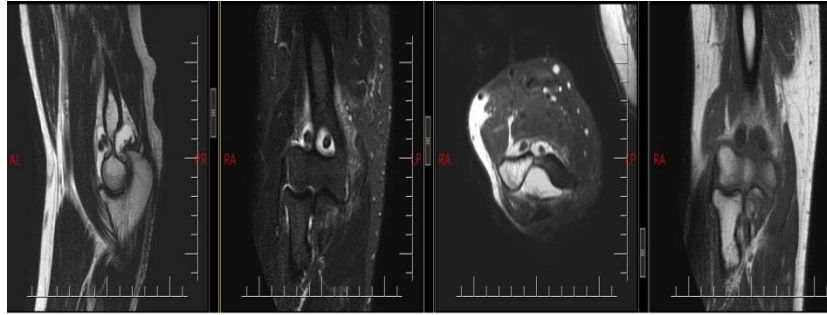
Snovyal Kondromatozis Vaka Örnekleri



SNOVYAL KONDROMATOZİS



SNOVYAL KONDROMATOZİS



Pigmente Vilvonodüler Sinovit (PVNS)

- Neoplastik proliferasyon
- 30-50 yaş
- Diz ekleminde sık
- Lokalize veya yaygın şekilde görülebilir
- Tekrarlayan ağrı, şişlik, hareket kısıtlılığı
- Eklem de yıkıma neden olabilir
- MR ile tanı konulabilir
- Açık ya da artroskopik eksizyon
- Yüksek tekrarlama olasılığı
- Tekrarlayan vakalarda radyoterapi uygulanabilir

PVNS

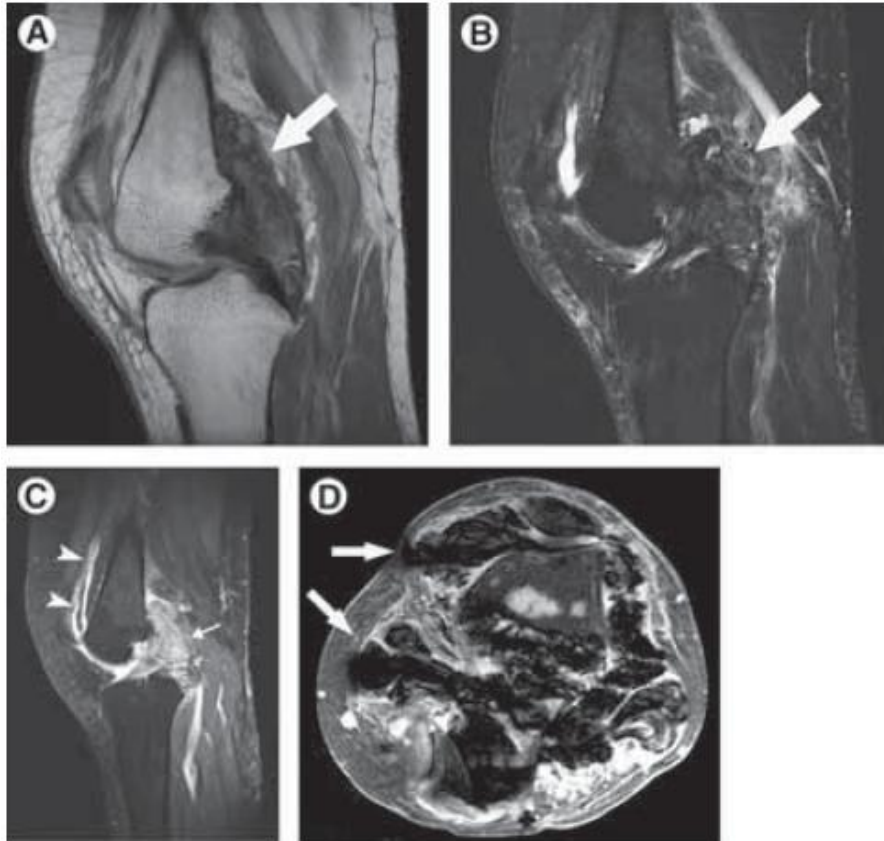


Figure 13 Diffuse PVNS. A 68-year-old white female with a history of knee pain and swelling. (A) Sagittal proton density-weighted (TR/TE; 2000/18). (B) T2-weighted image with fat saturation (TR/TE; 3000/70) and (C) T1-weighted fat saturation postcontrast images (TR/TE; 550/18) show a heterogeneous lesion filling the posterior knee joint (arrows) with intermediate to decreased signal. Postcontrast image demonstrates diffuse enhancement of the lesion (small arrow) and synovitis in the suprapatellar bursa (arrowheads). A 36-year-old woman with knee pain and swelling shows (D) a large intra-articular lesion with "blooming" artifact (arrows) on gradient echo sequence (TR/TE; 58.2/05).

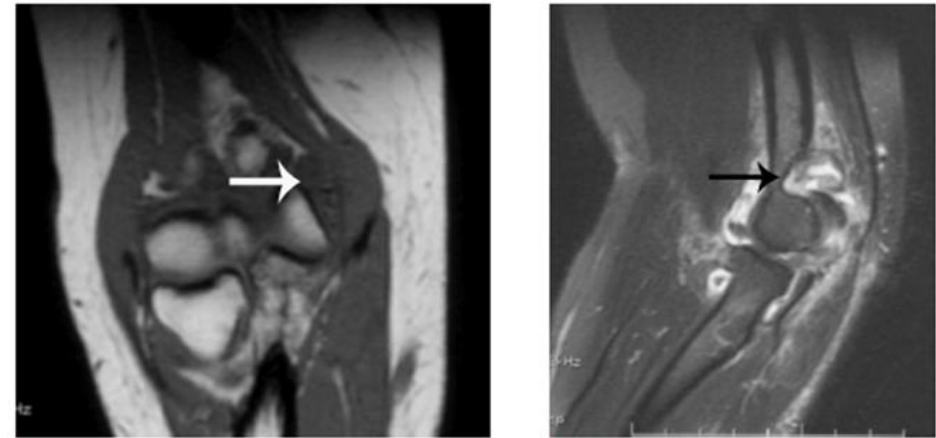


Figure 10-A
Pigmented villonodular synovitis of the elbow. Coronal T1-weighted image (Fig. 10-A) showing a lobular hypointense soft-tissue mass (arrow) with areas of signal dropout corresponding to hemosiderin deposition. Sagittal short tau inversion recovery image (Fig. 10-B) showing several loci of the pigmented villonodular synovitis process (arrow) with high signal intensity, along with areas of signal dropout corresponding to hemosiderin deposition.

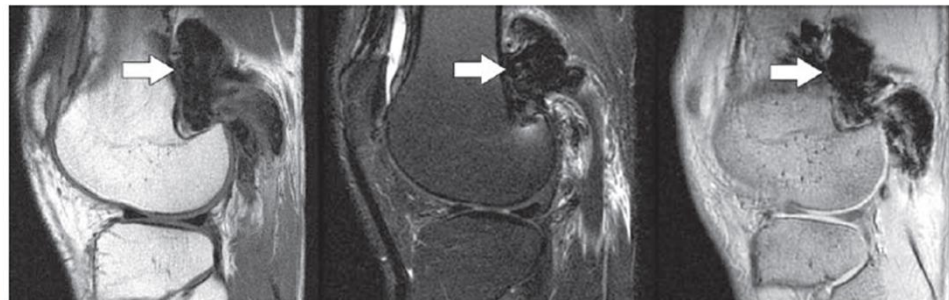
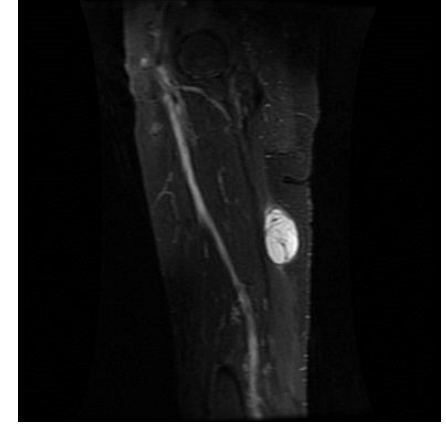
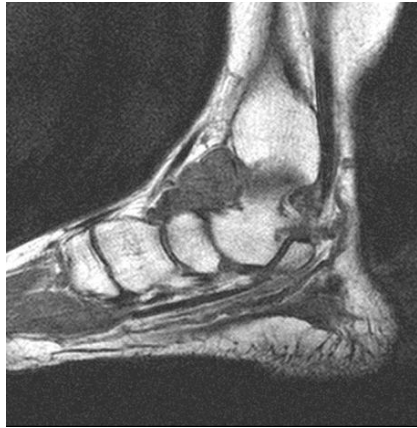
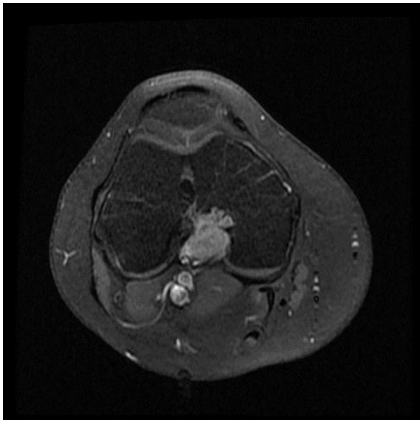
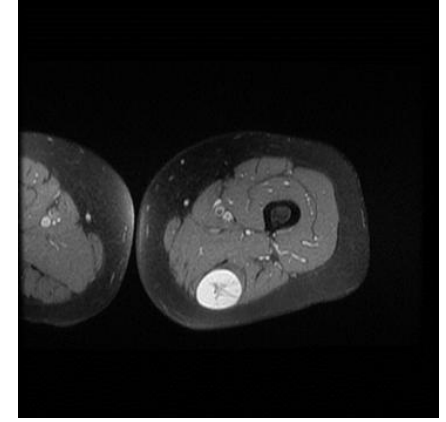
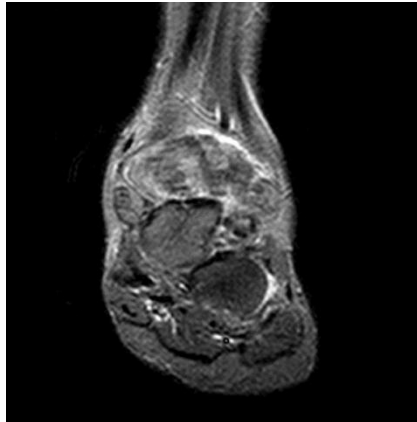
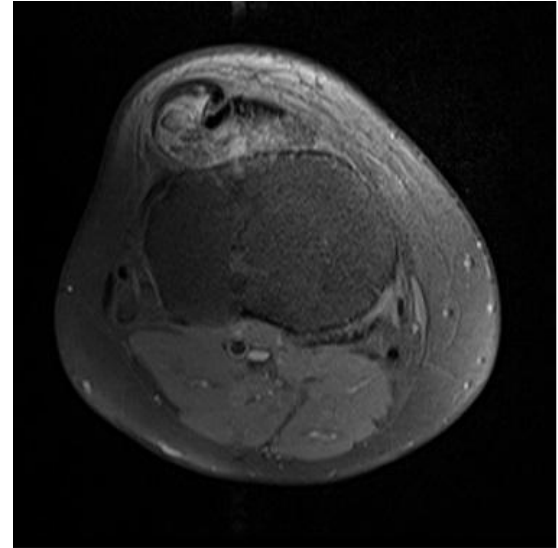
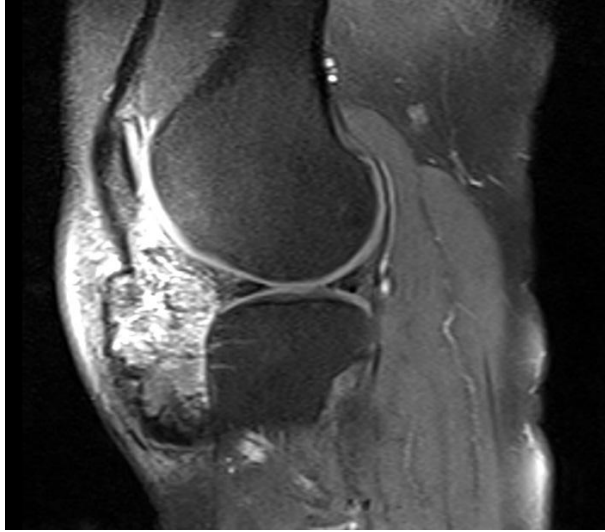


Figure 10. PVNS. T1-weighted (left) and T2-weighted fat-saturated (middle) MR images show a low-signal-intensity mass (arrow) in the knee. Right: On a gradient-echo image, the mass (arrow) demonstrates blooming artifact, which is due to the presence of hemosiderin and is a characteristic feature of PVNS.

PVNS Vaka Örnekleri

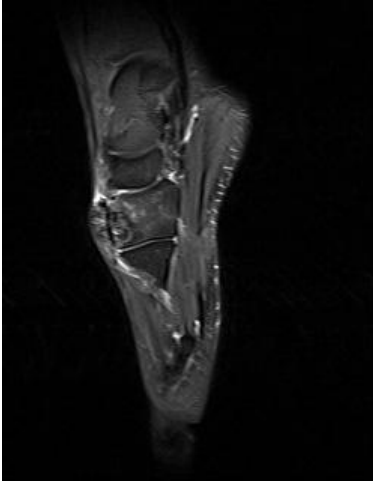


Diz PVNS

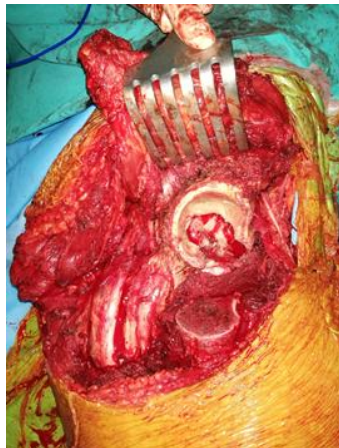
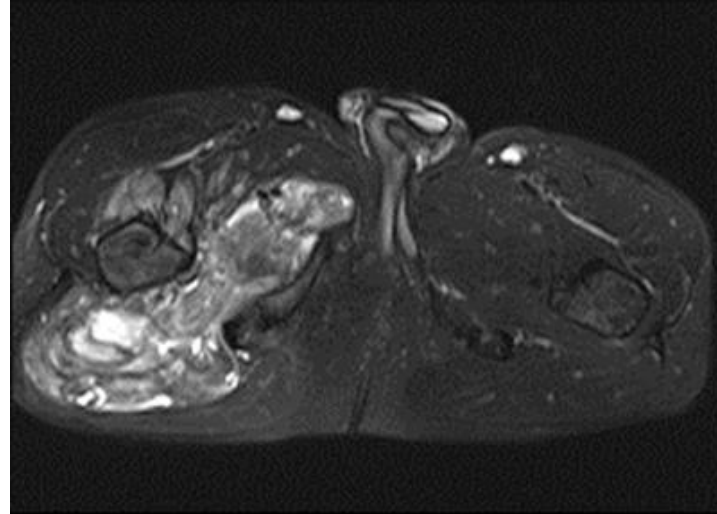
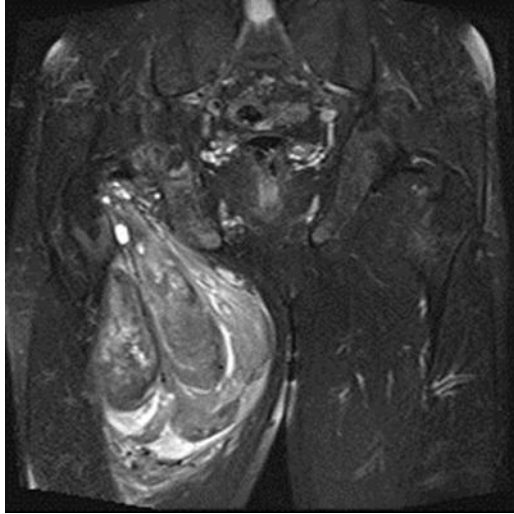


İntertarsal PVNS

Eksizyon-Artrodez



Kalça PVNS Eksizyon-TKP



Dev Hücreli Tendon Tümörü (DHTT)

- Sıklıkla elde
- Düzgün sınırlı
- Ağrı ve şişlik
- MR ile tanı konulabilir
- Komşu kemikte yıkıma neden olabilir
- Takip edilebilir
- Gerekli olgularda eksizyon
- Nadiren tekrarlayabilir

DEV HÜCRELİ TENDON TÜMÖRÜ

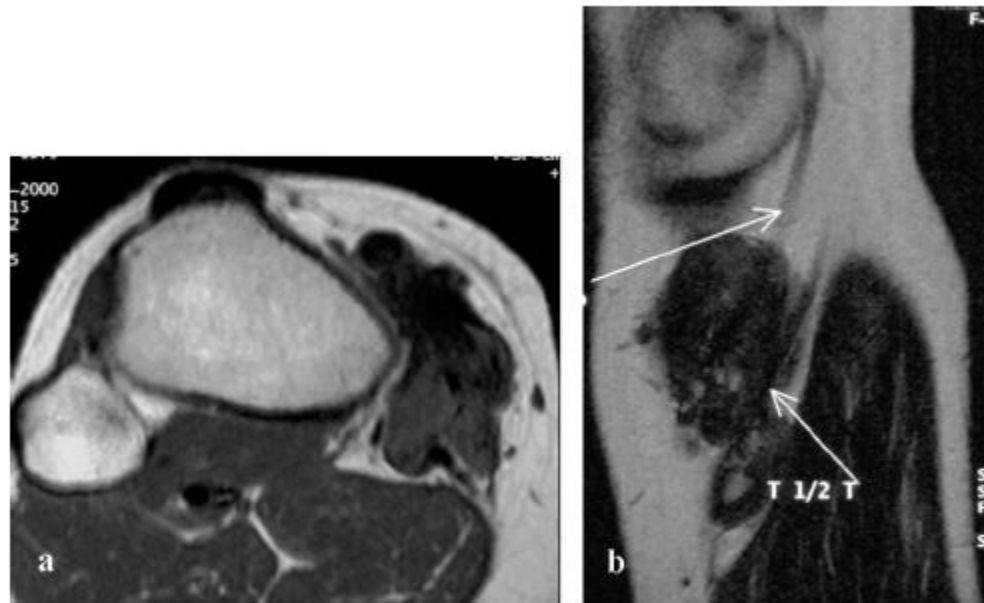
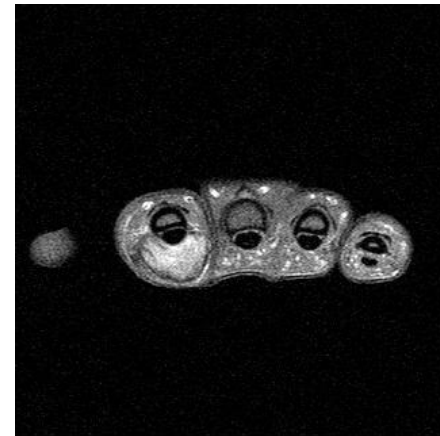
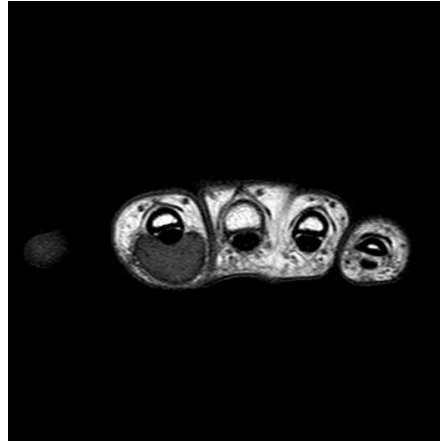
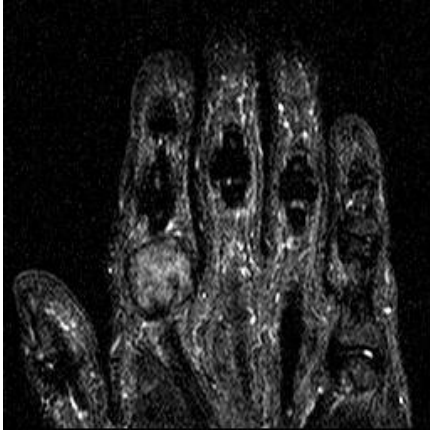
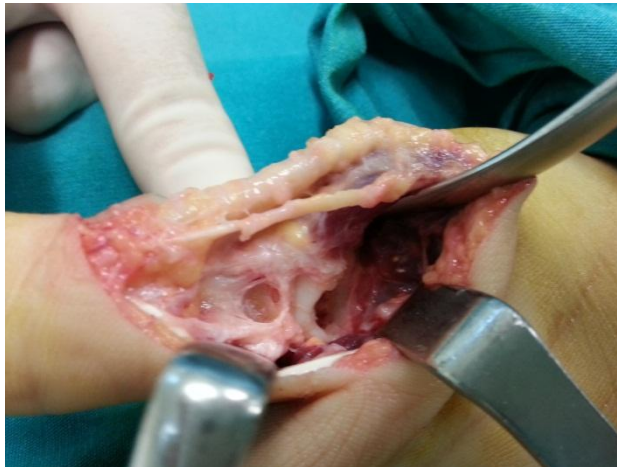
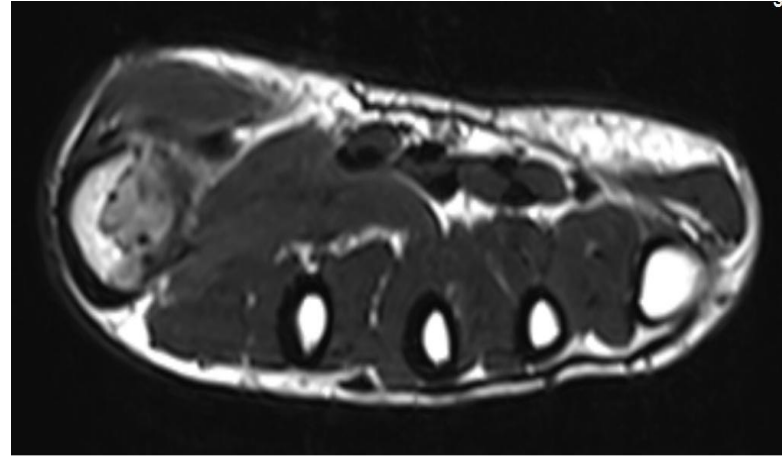


Fig. 4. Giant cell tumour of the tendon sheath. (a) Transverse T1-weighted spin-echo: ill-defined lesion with iso- and hypointense signal along the semi-tendinous tendon of the right knee. (b) Sagittal T2-weighted spin-echo: the lesion remains hypointense. Location and hypointensity on T2-weighted images are a clue for the diagnosis.

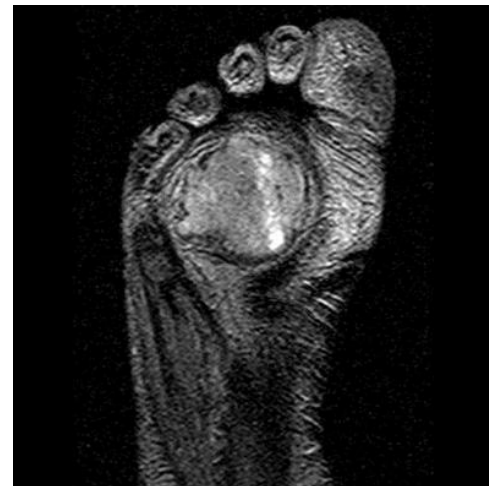
EI DHTT



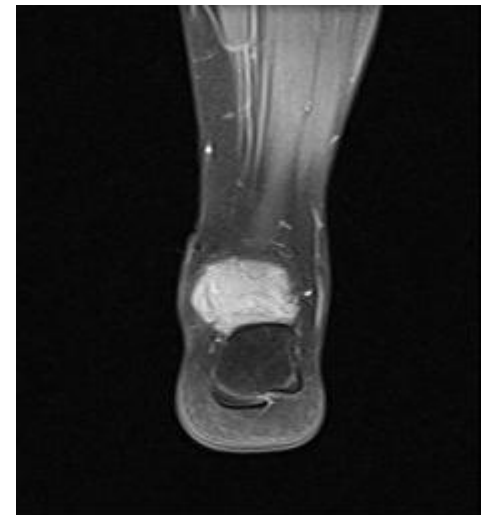
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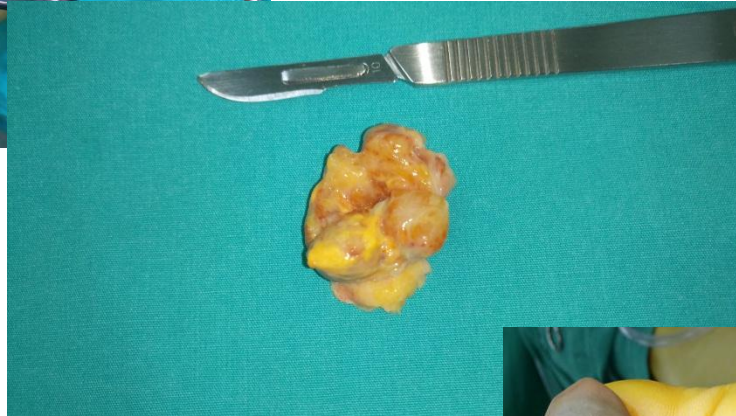
Ayak DHTT



Ayak DHTT



Ayak DHTT



Myositis Ossifikans (MO)

- Reaktif bir lezyondur (Travma sonrası)
- 15-35 yaş erkeklerde sık
- Ağrı, şişlik ve hareket kısıtlılığı
- Uyluk ve kolda sık
- Periferik mineralizasyon (yumurta kabuğu)
- Şüpheli vakalarda ekstraskeletal osteosarkomdan ayırıcı tanısı yapılmalı
- Semptomatik tedavi (NSAİ, FTR)
- Çıkarılması gereken vakalarda lezyonun olgunlaşması (6-12 ay) beklenmeli

Myositis Ossifikans

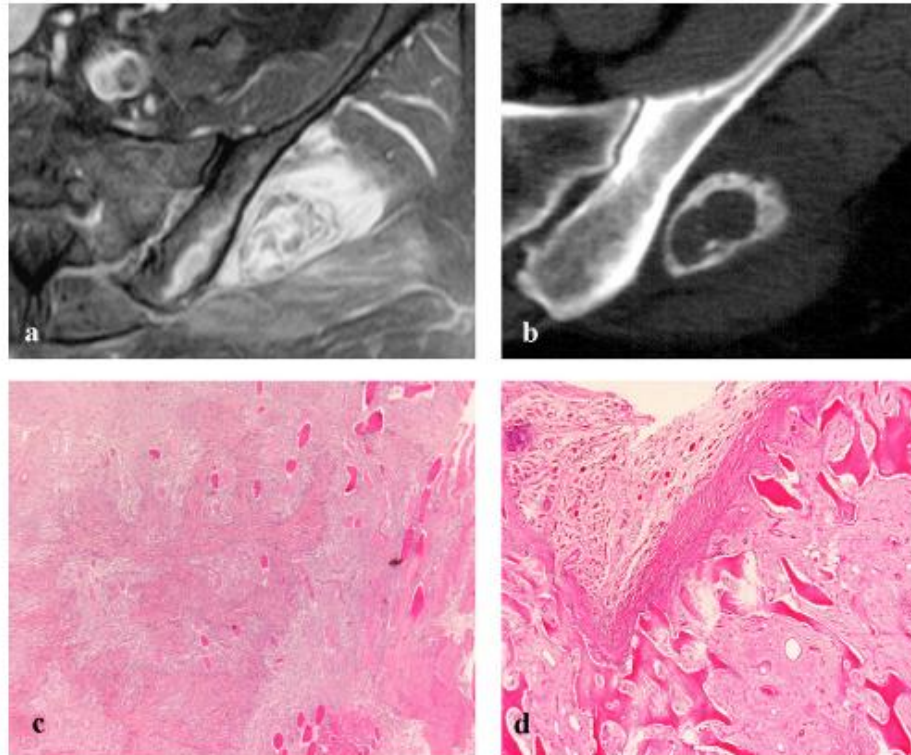


Fig. 1. Myositis ossifikans. (a) Transverse fat saturation T1-weighted spin-echo MR after administration of contrast material: hyperintense ill-defined mass of gluteal muscle associated with hyperintense signal of iliac bone marrow. (b) CT scan without contrast one month later: intramuscular pseudotumour well limited by a calcic rim separated from underlying iliac bone. (c) Histologically, early lesions are composed of a cellular myofibroblastic proliferation involving the muscle (muscle fibre visible at the periphery) and oedematous stroma with immature ossification. Mitosis are frequent and can lead to an erroneous diagnosis of osteosarcoma (hematoxylin eosin safran (HES), 40x). (d) Older lesion with an ossification rim visible at the periphery (HES, 40x).

Myositis Ossifikans

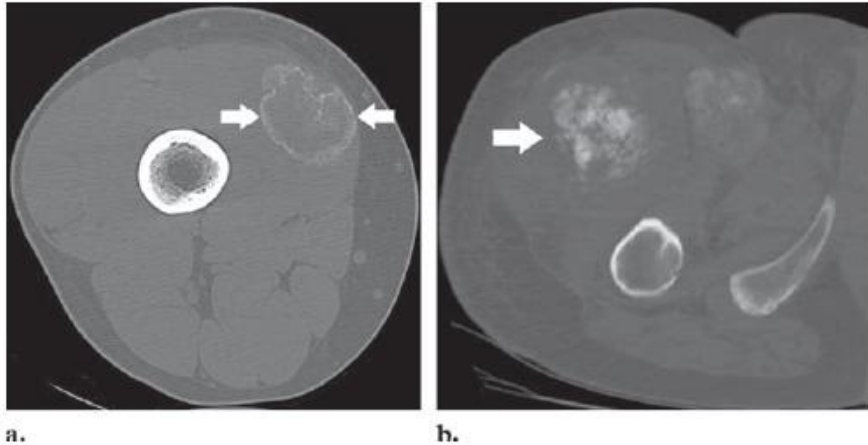


Figure 2. Myositis ossificans versus soft-tissue sarcoma.

(a) Axial CT image shows myositis ossificans in the mid right thigh. The ossified mass has a zonal pattern of mature well-formed peripheral ossification (arrows). (b) Axial CT image shows a soft-tissue osteosarcoma in the proximal right thigh. The soft-tissue component is peripheral to the mineralization (arrow), unlike the ossification in myositis.

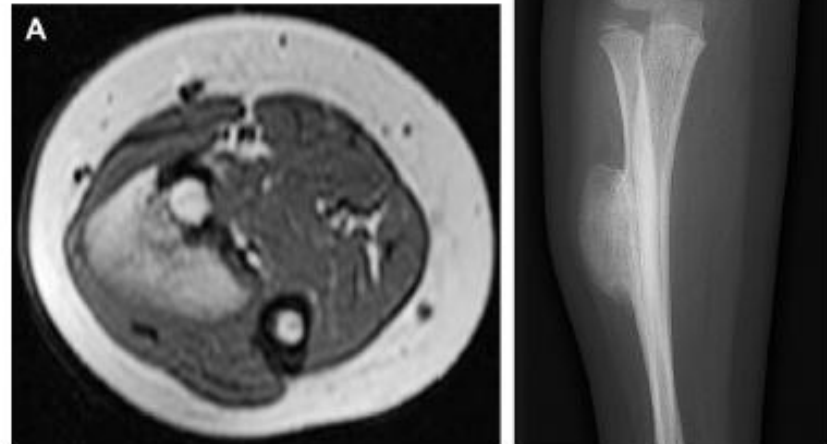
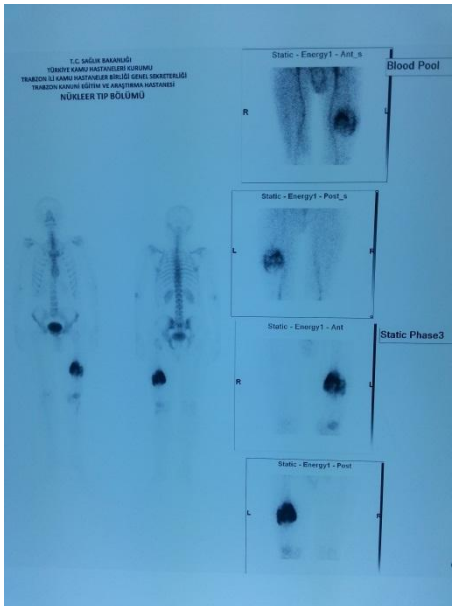
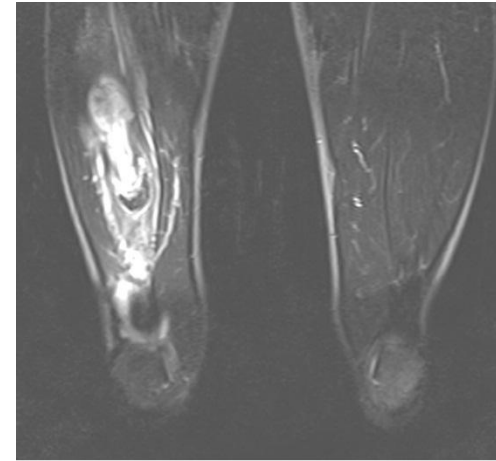
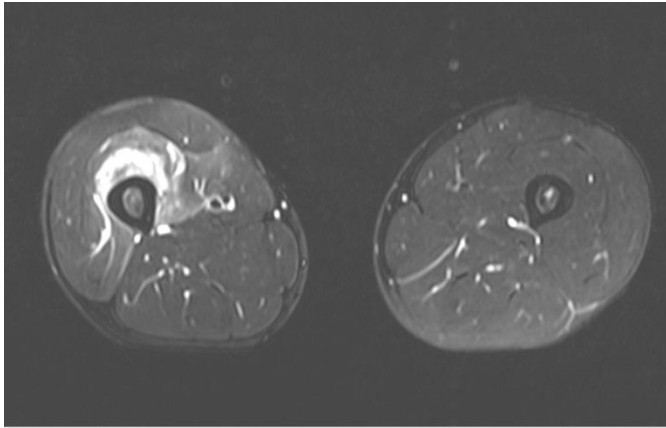


Fig. 8. Mature myositis ossificans. (A) Axial T1-W image reveals a central hyperintense matrix similar to that of adjacent marrow, along with a thin, hypointense rim of cortical bone. Radiograph (B) demonstrates the typical appearance. (Courtesy of Leslie Grissom, Wilmington, DE.)

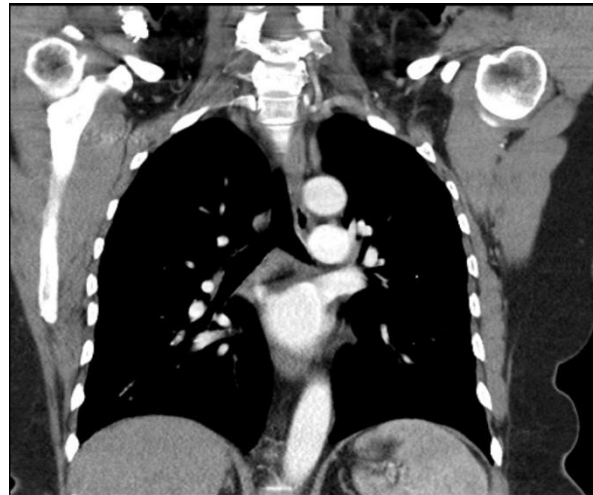
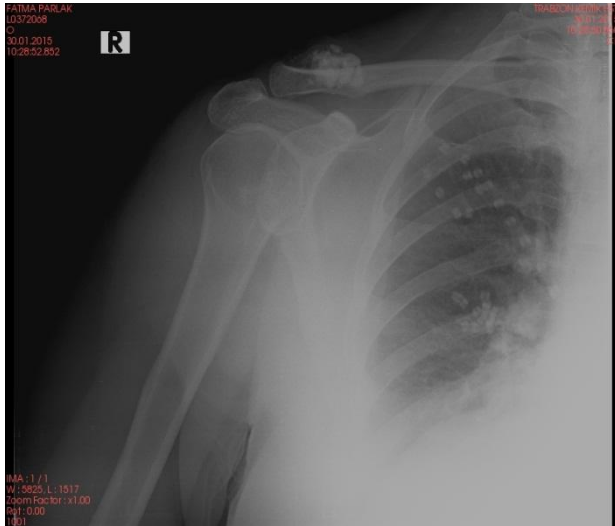
MO Vaka Örnekleri



Myositis Ossifikans



Myositis Ossifikans



Diğer Yumuşak Doku Lezyonları

- Geyser lezyonu
- Epidermal İnklüzyon Kisti
- Morton nöroma
- Ganglion Kisti
- Ksantoma
- Yumuşak doku kondroma
- Gut Tofüsü
- Psödotümör
- Pyomiyozit
- Hematom

GEYSER LEZYONU

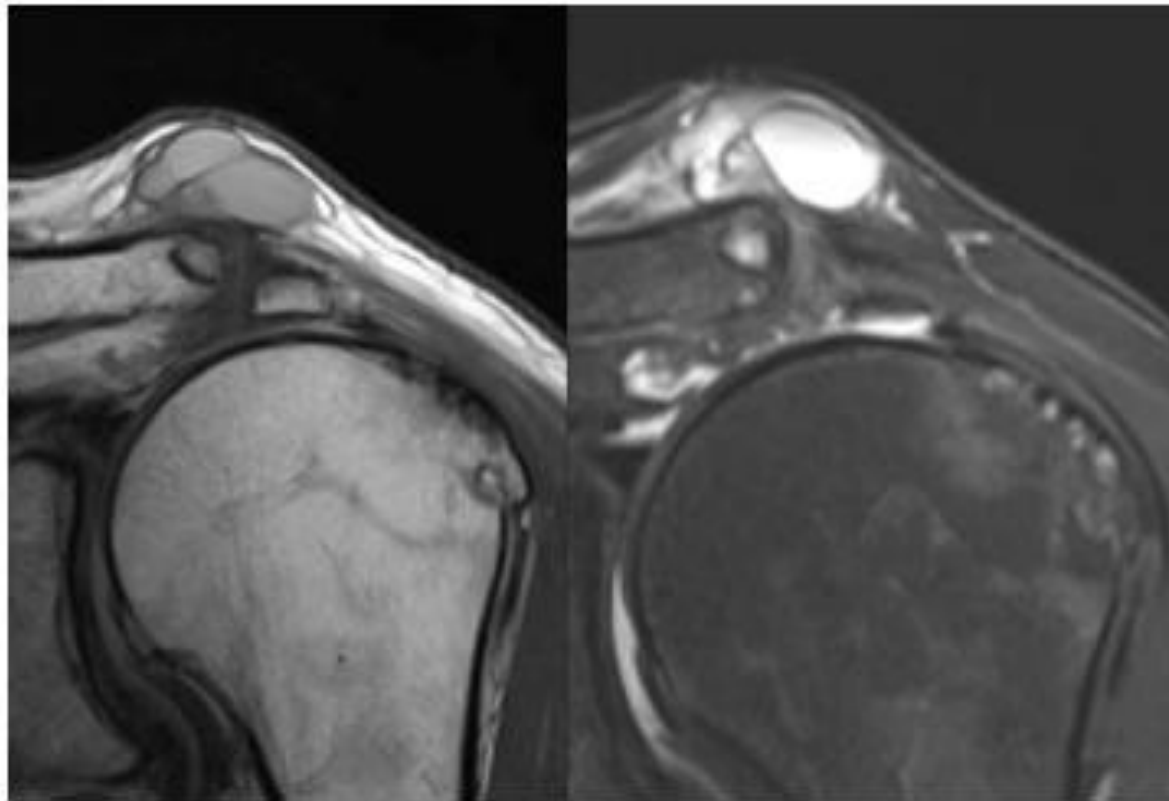


Fig. 14: Geyser lesion. PD and T2 FS sequences. A full thickness rotator cuff tear and abutment of the humeral head on the undersurface of the acromioclavicular joint causes disruption of the joint capsule. Glenohumeral joint fluid is then forced through the AC joint into the subcutaneous tissues forming a superficial periarticular cyst.

EPIDERMAL İNKLÜZYON KİSTİ

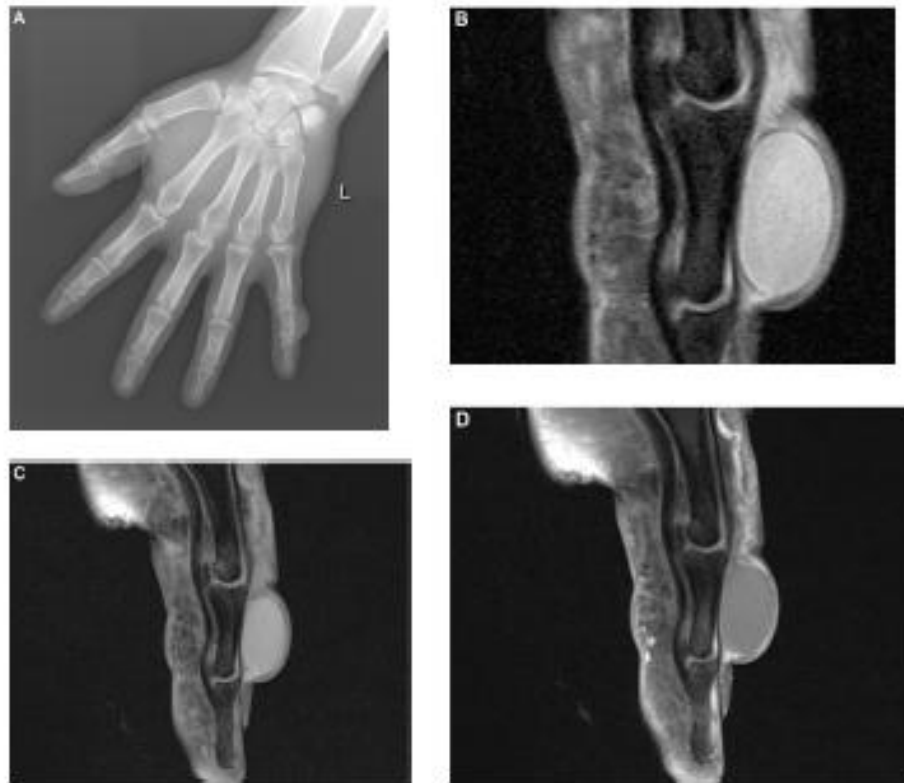


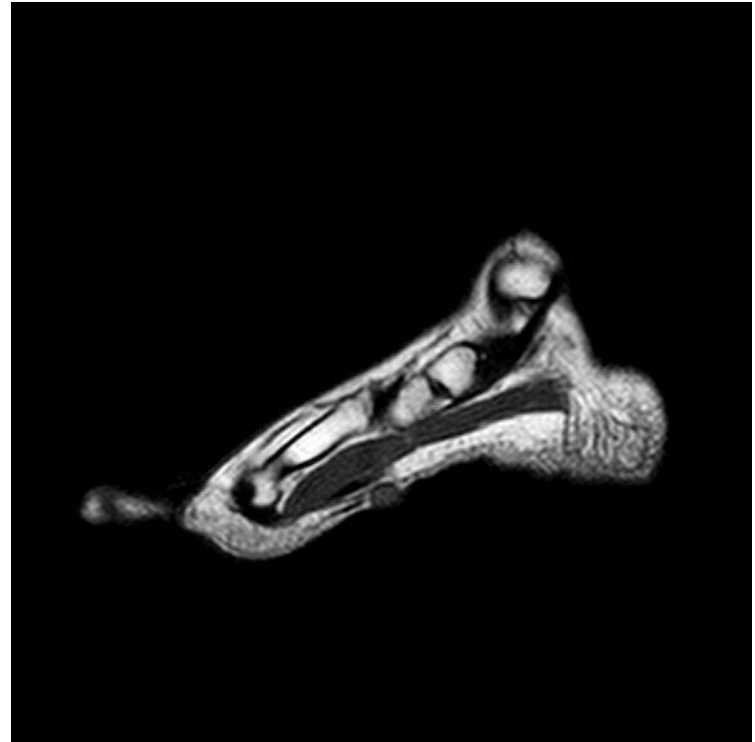
Figure 1 Epidermal inclusion cyst.

Notes: (A) Oblique radiograph of the left hand shows a noncalcified soft tissue nodular thickening in the fifth ray. (B) Sagittal proton density-weighted MR image shows a high-signal intensity homogeneous mass in the dorsal aspect of the middle phalanx. Sagittal T1-weighted fat-saturated MR image (C) before and (D) after gadolinium-based contrast agent administration shows minimal marginal enhancement.

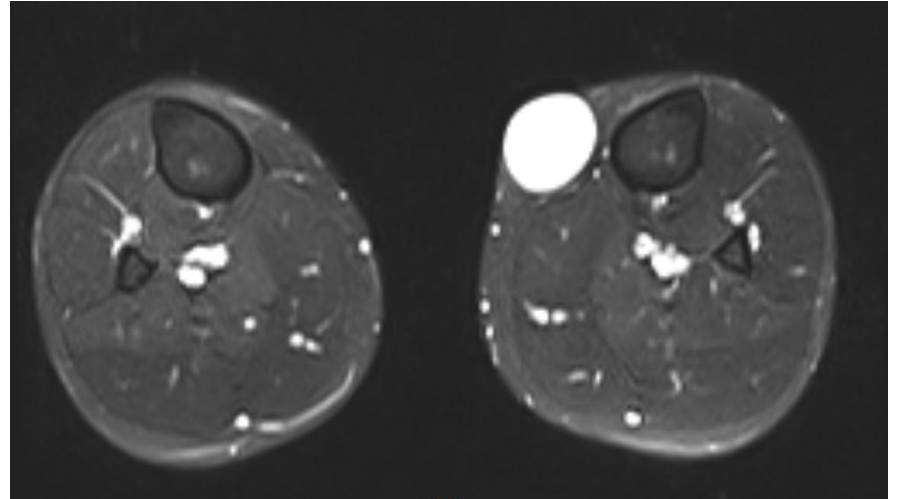
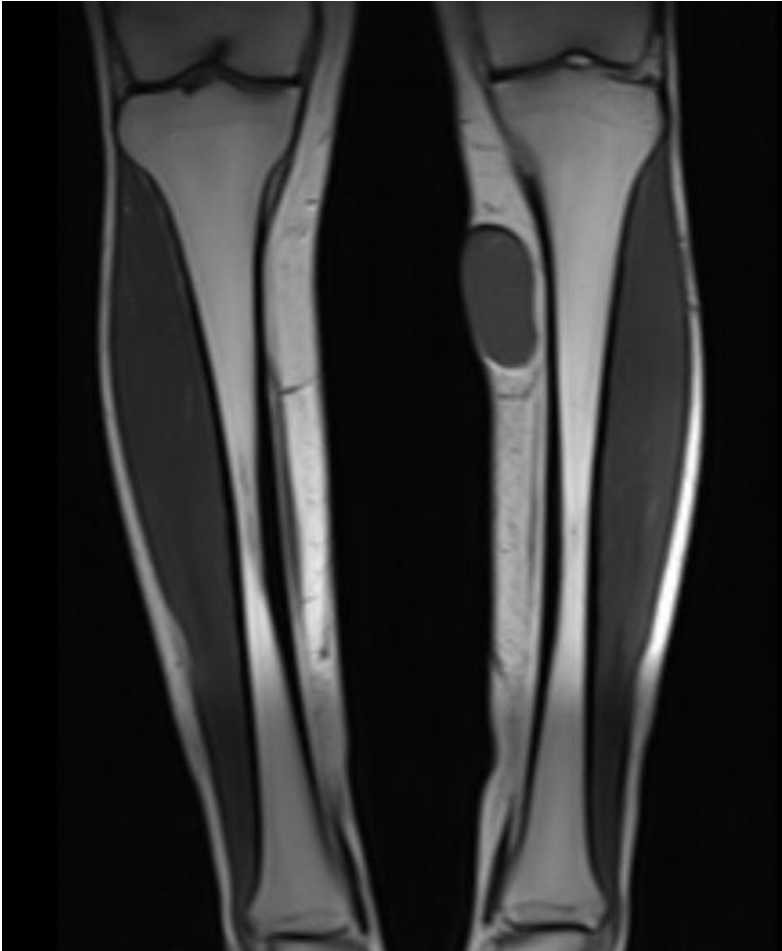
Abbreviations: MR, magnetic resonance.

Imaging techniques for the diagnosis
of soft tissue tumors

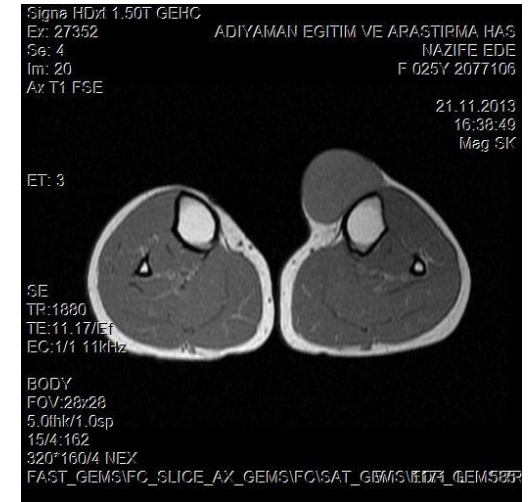
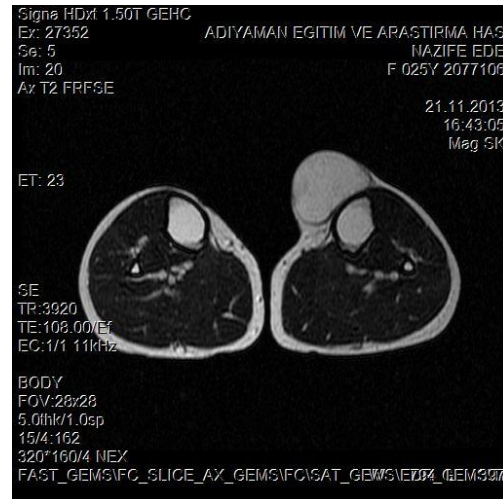
EPIDERMAL KIST



EPIDERMAL KIST



EPİDERMAL KİST



MORTON NÖROMA

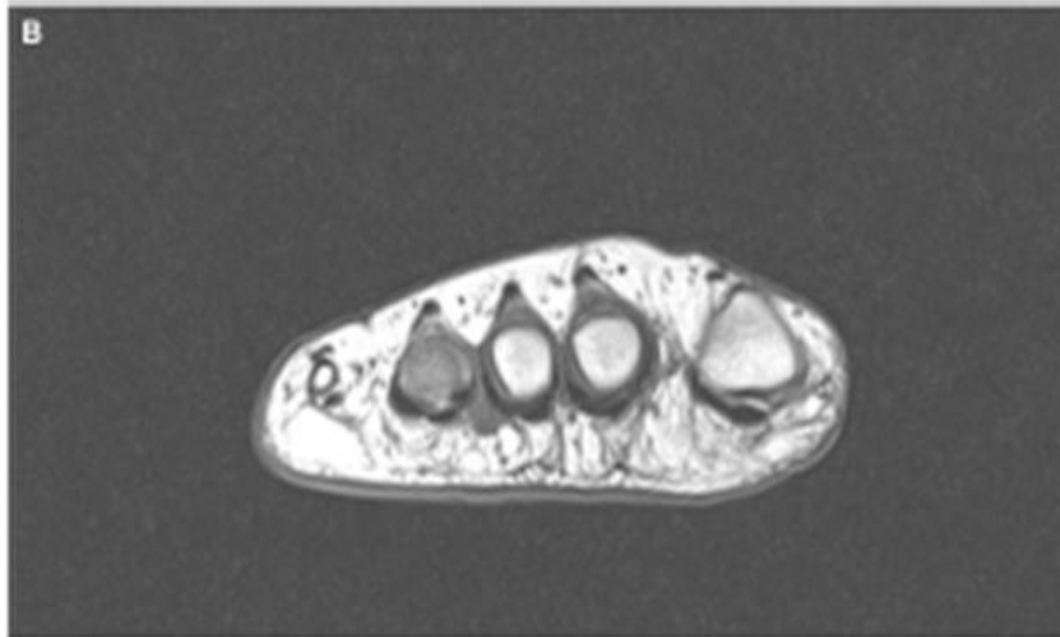


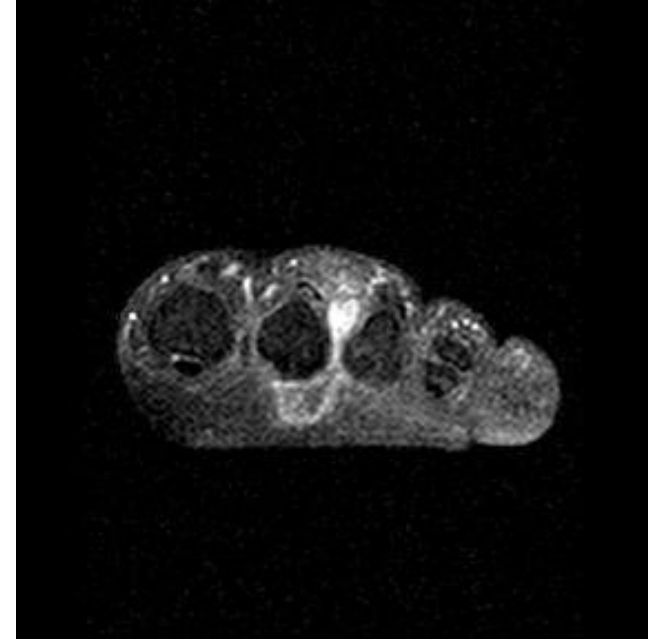
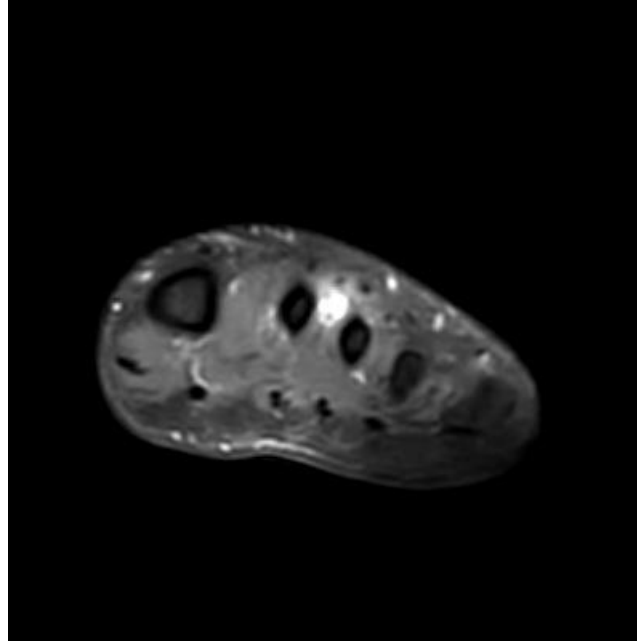
Figure 3 Morton neuroma.

Notes: (A) Transversal ultrasound image of the foot with Müller maneuver demonstrates a low-echogenicity mass in the third web space. (B) Coronal T1-weighted MR image confirms a low-signal intensity mass in the plantar aspect of the third web space, very suggestive of neuroma.

Abbreviation: MR, magnetic resonance.

Imaging techniques for the diagnosis
of soft tissue tumors

Morton Nöroma Vaka Örnekleri



Morton Nöroma Eksizyon



Ganglion Kisti, Baker Kisti

Figure 7. Intramuscular ganglion cyst.
Left: Axial T2-weighted fat-saturated MR image shows a lesion with very high signal intensity in the left calf. Right: Axial gadolinium-enhanced T1-weighted fat-saturated MR image shows peripheral enhancement of the lesion.

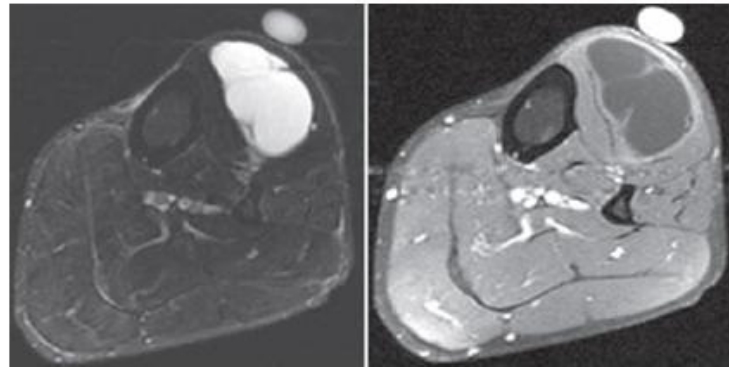


Fig. 4-A

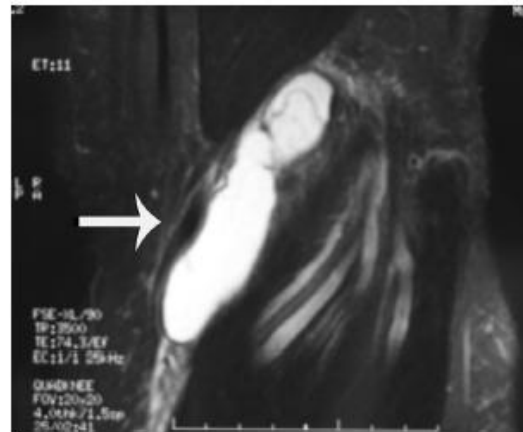
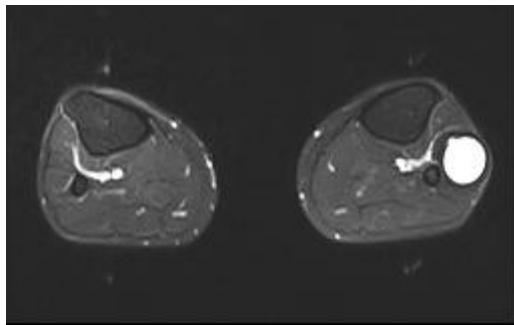
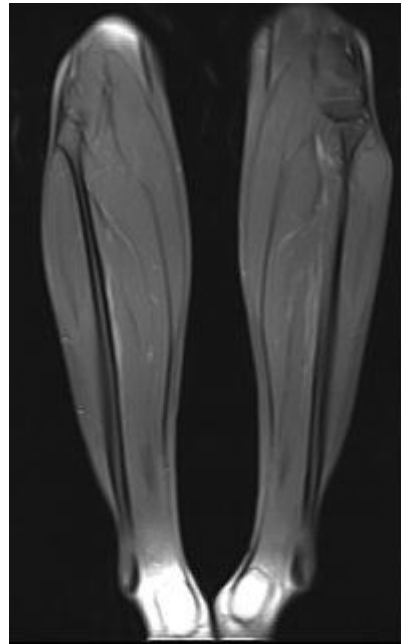
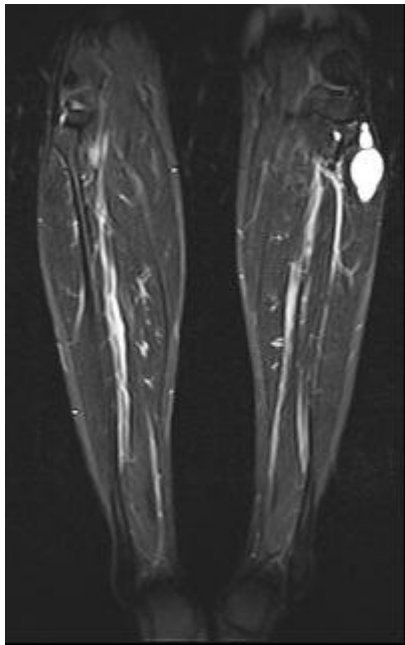


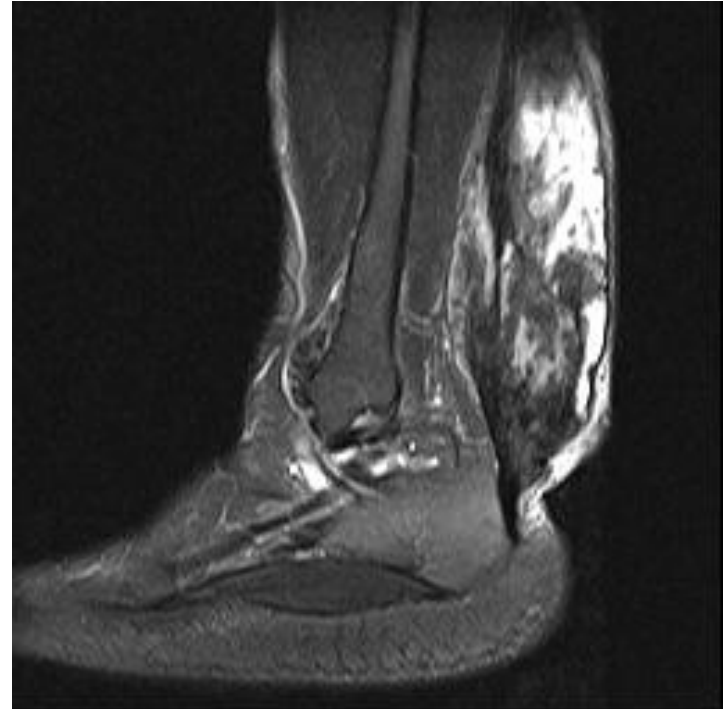
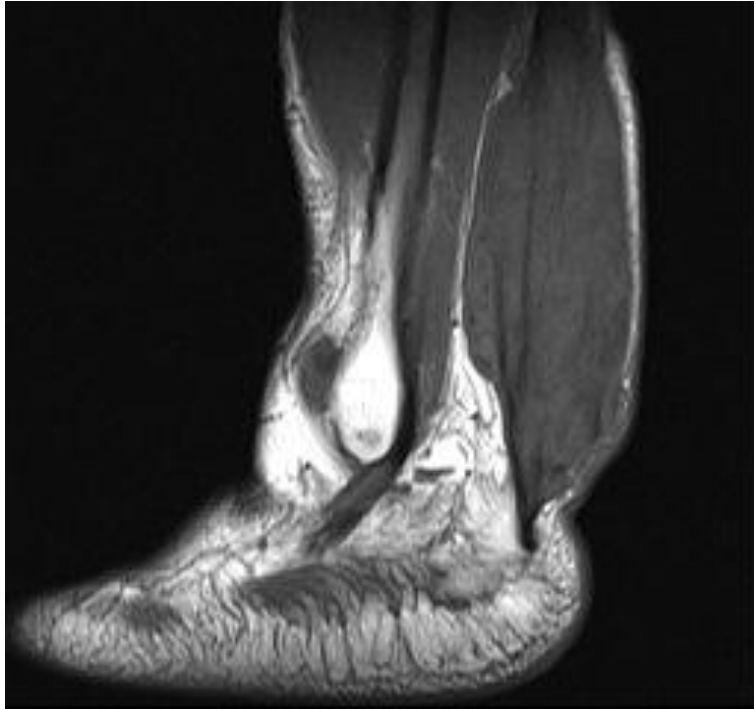
Fig. 4-B

Baker cyst. Sagittal T1-weighted image (Fig. 4-A) and short tau inversion recovery image (Fig. 4-B) showing a lesion (arrows) in the popliteal fossa situated between the medial head of the gastrocnemius muscle and the semimembranosus muscle. The lesion appears hypointense compared with muscle on T1-weighted images, and it shows high signal intensity on the short tau inversion recovery image because of its fluid content. The location, configuration, and signal intensity are characteristic for a Baker cyst.

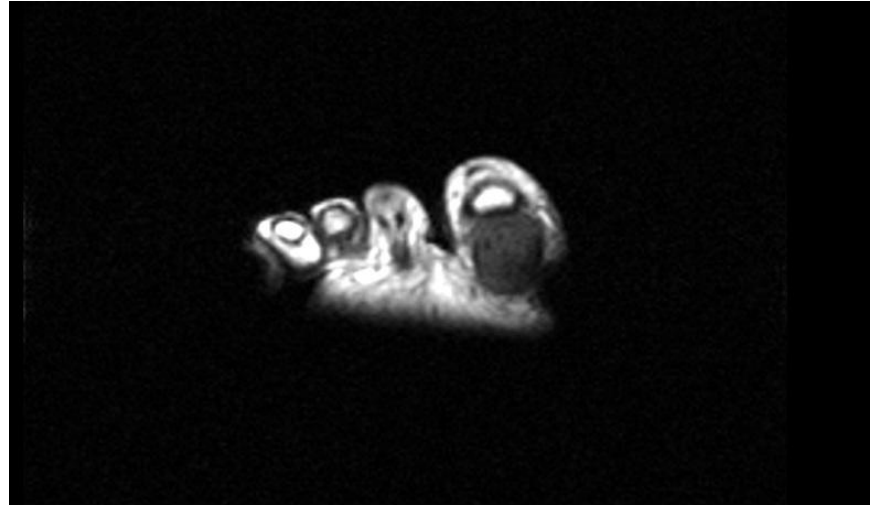
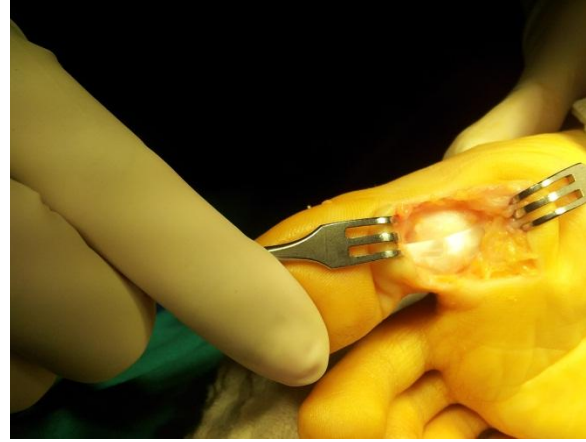
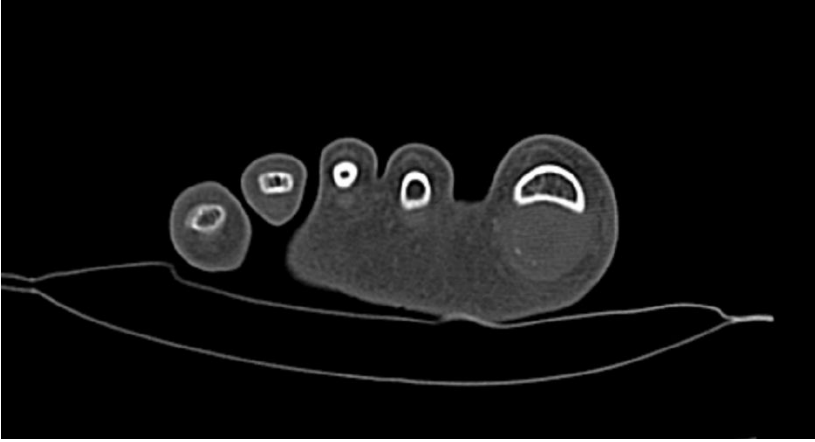
GANGLION KİSTİ



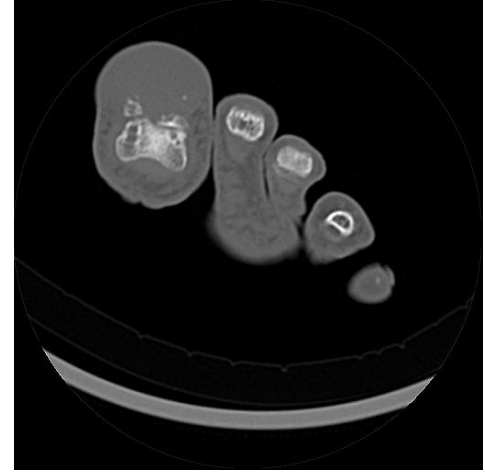
Xanthoma



YUMUŞAK DOKU KONDROMA



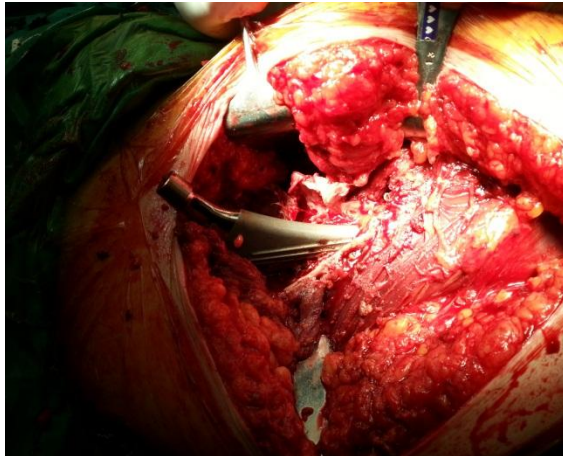
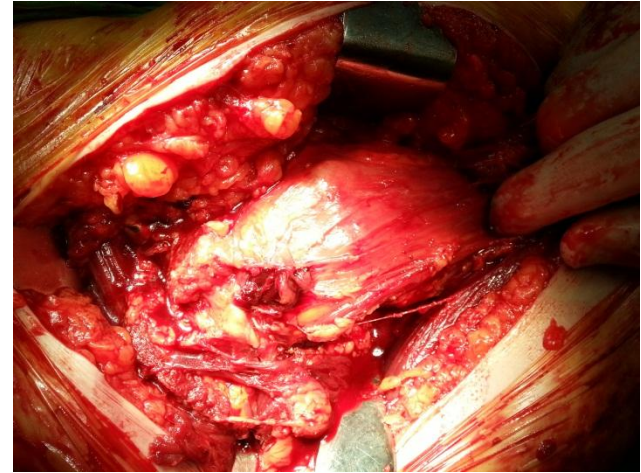
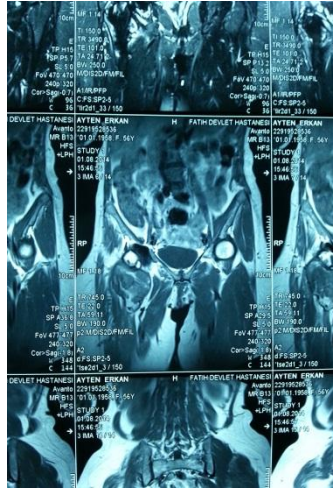
YUMUŞAK DOKU KONDROMA



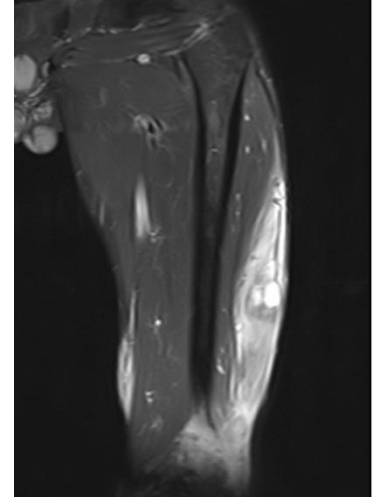
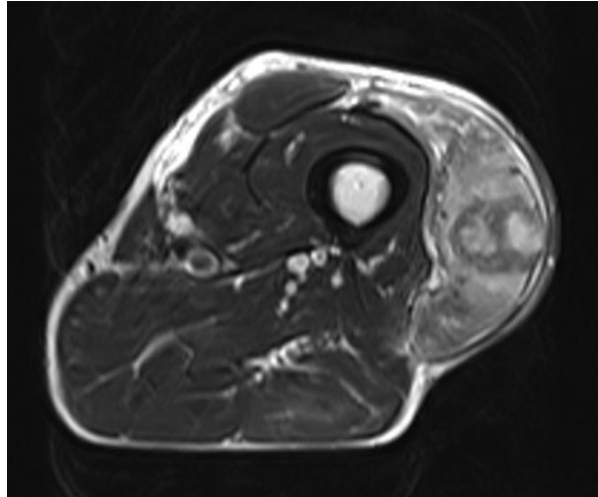
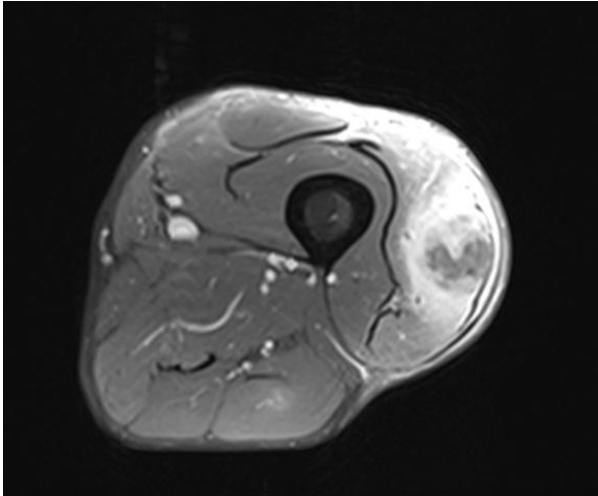
Gut Tofüsü



PSÖDOTÜMÖR



PYOMİYOZİT



HEMATOM

