



Forearm-Wrist Hibernoma: A Rare Benign Tumour of Brown Fatty Tissue

Ön Kol-El Bileğinde Hibernom: Kahverengi Yağ Dokusunun Nadir Görülen Benign Tümörü

Veysel Atilla Ayyıldız¹, Ali Köksal², Mesut Özgökçe³

¹Siirt Public Hospital, Department of Radiology, Siirt, Turkey.

²Bayındır Hospital Söğütözü, Department of Radiology, Ankara, Turkey.

³Van Yuzuncu Yıl University, Department of Radiology, Van, Turkey.

Objective

To reveal the magnetic resonance imaging findings of hibernoma which is rarely seen benign brown fat tissue tumour, usually seen in adults, that develops from fetal fat tissue residues.

Case

14-year-old female who noticed for the last 1 month immobilized soft tissue mass in her left wrist admitted to the orthopedic polyclinic. There was no pain. There was no circulatory problem or neurological deficit in this extremity. After that patient was referred radiology department. Magnetic resonance imaging was performed. On postcontrast T1 weighted fat-suppressed sequence, lesion showed homogeneous contrast enhancement (unlike lipoma) and there was a small hypointense area on central part of the lesion which demonstrates fat tissue. Patient was operated. Histopathological diagnosis was hibernoma.

Conclusion

Hibernoma should be considered in patients with immobilized soft tissue mass without significant symptom on the forearm-wrist.

Keywords: Hibernoma, Benign Brown Fatty Tissue Tumour, Forearm-Wrist

Introduction

Hibernoma; is named brown fat tissue lipoma, immature fat tissue lipoma, fetal lipoma, or pseudolipoma. For the first time, Merkel described hibernoma in 1906 as pseudolipoma, name of hibernoma is used for the first time by Gery (1). Hibernoma is a rare benign tumour that develops from brown fat tissue in humans and animals. It usually occurs in adults with interscapular, mediastinum, neck, back, axilla, posterior abdominal wall, paraaortic, periaortic, perirenal, peripancreatic region, inguinal region and autonomic ganglia (2). Hibernoma, especially seen in the forearm-wrist is very rare (3). Hibernoma is a heterogeneously hypodense mass because of its lipid and fibrovascular content on computed

Amaç

Fetal yağ doku kalıntılarından gelişen genellikle yetişkinlerde, nadir görülen kahverengi yağ dokusunun benign tümörü olan hibernomun magnetik rezonans görüntüleme bulgularını ortaya koyacağız.

Olgu

14 yaş kız çocuk sol ön kol-el bileği düzeyinde son 1 aydır farkına vardığı hareketsiz yumuşak doku şişliği nedeniyle ortopedi polikliniğine başvurdu. Muayenesinde palpasyonla ağrı yoktu. Bu ekstremitede dolaşım problemi ya da nörolojik defisit bulunmamaktaydı. Ardından hasta radyoloji bölümüne refere edildi. Hastaya magnetik rezonans görüntüleme (MRG) yapıldı. MRG’de kontrast sonrası yağ baskılı T1 ağırlıklı görüntüde lezyon lipomun aksine homojen kontrast tutulumu göstermekteydi (Lezyonun santralinde yağ dokusunu temsil eden kontrast tutmayan küçük bir alan mevcuttu). Hasta opere edildi. Histopatolojik tanı hibernomdu.

Sonuç

Ön kol-el bileğinde belirgin semptomu olmadan immobil yumuşak doku kitlesi ile başvuran hastalarda hibernom akılda tutulmalıdır.

Anahtar kelimeler: Hibernom, Benign Kahverengi Yağ Doku Tümörü, Ön Kol-El Bileği

tomography. On magnetic resonance imaging, the tumour appears bright on T1-weighted image and has a moderate signal intensity on T2-weighted images like subcutaneous fat. These may lead to confusion with liposarcoma. Histopathologic evaluation with electron microscopy gives a definitive result (4). The treatment of the hibernomas is complete surgical excision (4). Incomplete excision causes to grow and recurrence (5).

Case Report

A 14-year-old pediatric patient admitted to the orthopedic polyclinic presented with an immobilized soft tissue mass in the left forearm-wrist. There was no pain. There was no circulatory problem or neurological deficit in this extremity.

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Yazışma Adresi / Corresponding: Veysel Atilla Ayyıldız
Siirt Public Hospital, Department of Radiology, Siirt, Turkey.

Tel: 0 484 223 10 21

Tel: 0 531 218 46 30

Fax: 0484 223 22 90

E-mail: veysel06@hotmail.com

After that patient was referred radiology department, magnetic resonance imaging (MRI) was performed. On MRI, left forearm-wrist on the volar side, lesion was localized to the deep subcutaneous fat plane, extended between flexor tendons and was adjacent to the tendons. The lesion was hyperintense on fat suppressed coronal T2 sequence and hypointense on T1 sequence (unlike lipomas), had lobulated contour and 3x2x0,5 cm size (Figure A). After contrast administration on T1 fat suppressed image, lesion enhanced homogeneous (except central small hypointense area which demonstrates fat) (Figure B). Patient was operated. Histopathologic diagnosis was reported as hibernoma.



Figure A) Magnetic resonance images of left forearm-wrist. Left: Coronal T2 weighted fat suppressed image. Lesion is hyperintense. Right: Coronal T1 weighted image. Lesion is hypointense. Lesion has lobulated contour on both images.

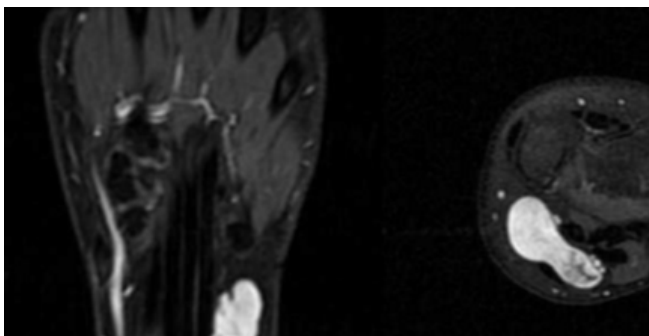


Figure B) Magnetic resonance images of left forearm-wrist. Left: Postcontrast coronal fat suppressed T1 weighted image. Right: Postcontrast axial fat suppressed T1 weighted image. After contrast administration lesion enhances homogeneously (except small hypointense area at central part of the lesion which demonstrates fat).

Discussion and Conclusion

Hibernoma is usually seen in adults which is a rare benign soft tissue tumour of brown fatty tissue that develops from fetal brown fat tissue residues. Although it can be seen on variable region of the body, it is very rare to be seen especially in children and on forearm-wrist. To best of our knowledge,

hibernoma which was on forearm-wrist has been reported as a single case in the literature (3).

Our case is interesting because the patient is a child and the lesion is seen on forearm-wrist that is a very rare area for hibernomas. Although they are benign, they can reach big sizes and compress the surrounding tissues. For treatment, total excision of the tumour is sufficient (4). Incomplete excision causes to grow and recurrence of the lesion (5).

The lesion was closely related to the tendons and when T2weighted signaling characteristics of the lesion were taken into consideration, suggesting for ganglion in the first time but it showed intense homogeneous enhancement contrary to the ganglion (6). On axial image, lesion was shaped like hourglass, and on central part of the lesion a small portion of the fat compatible with fat tissue was available.

Therefore, although the lipoma was considered in the differential diagnosis of the lesion, the T1weighted signal features of the lesion and the contrast pattern were not compatible with the lipoma. Lipoma was marked hyperintense appearance in T1 weighted series. In our case, lesion was more hypointense on T1 weighted series than in the subcutaneous fat tissue. Whereas lipomas did not show contrast enhancement, the lesion at the time of our presentation showed markedly intense homogeneous enhancement (7).

In conclusion; very rarely, patient who presented with immobilized soft tissue mass without significant symptom on the forearm-wrist, hibernoma should be considered which a benign soft tissue tumour is in the differential diagnosis.

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