



High Cervical Intradural Lipoma in Continuity with Subcutaneous Lipoma

Subkutanöz Lipom ile Devamlılığı Olan Yüksek Servikal İntradural Lipom

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Abstract

Presence of adipose tissue in intradural locations is a pathological condition which can be seen associated with or without spinal dysraphism. Intradural lipomas comprise a small part of all spinal masses, account for less than 1%. They usually manifest with incidental findings on magnetic resonance imaging (MRI) or cord compression findings. Intradural lipomas are rarely seen in the high cervical region. We report one such case. (*The Medical Bulletin of Haseki 2014; 52: 216-8*)

Key Words: High cervical, lipoma, spinal cord compression, spinal dysraphism

Özet

İntradural alanda adipoz doku bulunması patolojik bir durumdur. Bu durum; spinal disrafizm ile birlikte veya disrafizm olmaksızın görülebilir. İntradural lipomlar tüm spinal kitlelerin %1'lik küçük bir kısmını oluştururlar. İntradural lipomlar genellikle manyetik rezonans görüntüleme de (MRI) insidental olarak veya spinal kord kompresyon bulguları ile görülürler. İntradural lipomlar yüksek servikal bölgede nadiren görülürler. Biz intradural yüksek servikal lipomu olan vakamızı sunuyoruz. (*Haseki Tıp Bülteni 2014; 52: 216-8*)

Anahtar Sözcükler: Yüksek servikal, lipom, spinal kord kompresyonu, spinal disrafizm

Introduction

Lipomas are the most common benign soft tissue tumors of mesenchymal origin arising from the subcutaneous adipocytes (1,2). They are encapsulated neoplasms and they do not tend to metastasize. However, they may invade the adjacent tissues, such as muscle, bone, connective tissue, peripheral nerves, and spinal cord (3,4). Recurrence of lipomas after surgery is rare. They are asymptomatic, slow-growing painless masses which are usually located in the back, shoulder, axilla and the neck regions (5). They can be seen in the vertebral column being associated with or without spinal dysraphism. Although there is a layer of adipose tissue in the epidural space, intradural spinal lipomas are rare. While intradural lipomas are usually observed in the thoracic and lower lumbar spine, they are rarely observed in the high cervical region. Although clinical findings present at birth due to compression of lipoma in the dura mater on the spinal cord, they can also develop in older age. Lipomas in the dura mater usually manifest

with spinal cord compression (1,4). Magnetic resonance imaging (MRI) is the most useful radiological diagnostic tool. Definitive diagnosis is made by histopathological investigation. Well-differentiated elliptical mature adipocytes are detected in pathological investigation.

Case

A 23-year-old female patient was admitted to our clinic with the complaint of hypoaesthesia at her right arm continuing for a long time. At her neurological examination, muscle strengths were normal, deep tendon reflexes were normoactive, the right arm was hypoaesthetic, and plantar response was bilaterally flexor. Sensation to pain, temperature, two point discrimination and touch were normal. A mass lesion hyperintense on T2-weighted image consistent with a lipoma located at the level of C1-C2 vertebrae, beginning from subcutaneous tissue and extending to intradural region was seen. The cervical spinal cord was observed to be slightly displaced anteriorly, but anterior subarachnoid space was preserved. On sagittal



Figure 1a. In sagittal imaging on MRI, a mass lesion isointense with subcutaneous tissue but hypointense on T1 weighted fat suppression with contrast image

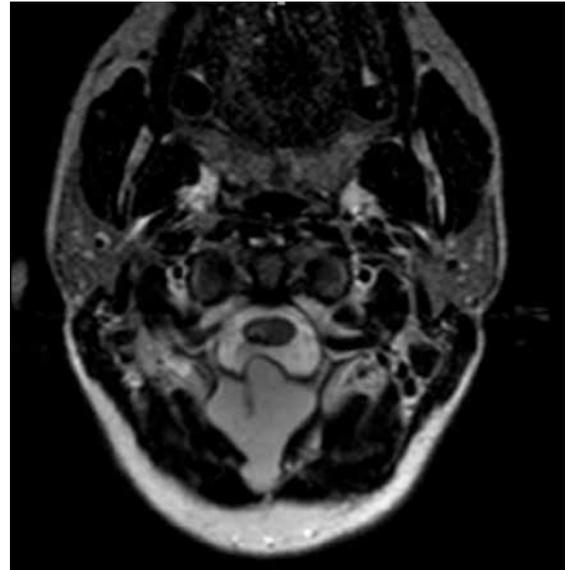


Figure 2. In axial imaging, it was observed that intradural lipoma was in continuity with subcutaneous lipoma and there was a laminar defect in the atlas

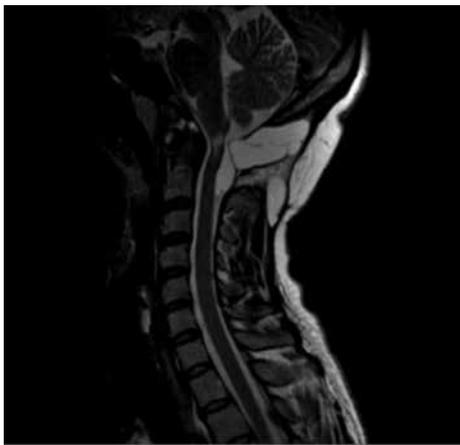


Figure 1b. A mass lesion hyperintense on T2-weighted image consistent with a lipoma located at the level of C1-C2 vertebrae beginning from the subcutaneous tissue and extending to intradural region was seen. Cervical spinal cord was observed to be slightly displaced anteriorly, but anterior subarachnoid space was preserved. There was myelomalacia change in the upper cervical cord

MRI, a mass lesion was isointense with subcutaneous tissue, but on T1-weighted images, it was hypointense fat suppression. (Figure 1a, 1b). On axial images, it was observed that intradural lipoma was in continuity with subcutaneous lipoma and laminar defect was detected in the atlas (Figure 2). The result of biopsy was reported to be lipoma comprising of mature adipocytes (Figure 3). The patient refused surgery that would be performed for complete removal of the mass. The patient is still being followed up neurologically and radiologically by our clinic.

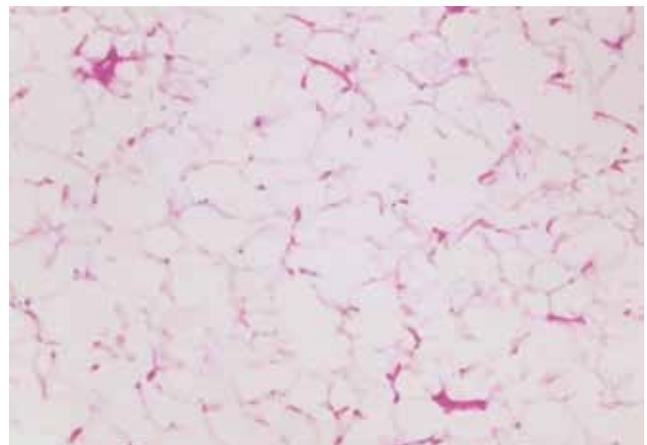


Figure 3. Mature adipose tissue with large adipocytes (H&E, X100)

Discussion

Lipomas are mesenchymal origin benign tumors arising from subcutaneous tissue adipocytes and they are comprised of fat nodules (2,5). They tend to grow slowly and be asymptomatic.

After reaching a certain size, they manifest clinically with pain or cord compression findings. Most commonly, they tend to locate in the trunk, shoulders, axilla and the posterior neck. Only 13% of them are observed in the head and neck region (5,6). Lipomas are more common in individuals 50-60 years old and are more common in females than in males. Histologically, they are composed of well-differentiated mature adipocytes (1,5). Lipomas are diagnosed radiologically using MRI. They are hyperintense

on T1-weighted sequences, signal intensity is more variable on T2-weighted sequences and signal intensity completely disappears with fat suppression (1,3,4).

Intradural lipomas comprise approximately 1% of all primary intradural tumors (4). MRI is used in the differential diagnosis of intradural masses. Intradural lipomas are congenital lesions seen at birth; clinical findings manifest at birth or commonly with compression findings and medullary ischemia in older ages. Intradural lipomas can be seen with or without spinal dysraphism (4). The etiopathogenesis of intradural lipomas is still controversial. Spinal lipomas are considered to be a primary tumor of the spine which is occurring with the transformation of pericapillary mesenchymal cells into adipocytes (7,8). Intradural lipomas associated with spinal dysraphism are most commonly observed in the lower lumbar spine. High cervical region lipomas are rarely seen (4).

Due to dense adhesion of these tumors in the high cervical region into the cord, many authors advise not to try to perform complete surgical excision of the tumor to prevent a possible damage to the vulnerable area.

In our case, lipoma in continuity with subcutaneous invasion within the intradural region at the level of C1-C2 vertebrae leading to myelomalacia in the upper cervical

cord was observed on MRI. Biopsy was performed and the result of the biopsy was reported to be lipoma comprising of mature cells. Possible complications of the surgery were discussed with the patient. The patient refused surgery that would be performed for excision of the lipoma.

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