Case Report

Journal of Emergency Medicine Case Reports

Incidental Thoracic Spinal Angiolipoma in a Young Woman Presenting with Trauma

İhsan Canbek[1], Sevilay Vural[1], Hakan Ak[1]
[1]Yozgat Bozok Üniversitesi Tıp Fakültesi

Abstract

Introduction: Spinal angiolipoma is a rare clinical entity and usually presents with clinical signs and symptoms of spinal cord compression. It has two types; non-infiltrating and infiltrating. It is more common in females at the ages of 40-50 and at the mid-thoracic levels.

Case report: We discussed an incidentally diagnosed non-infiltrating angiolipoma case in the lower thoracic spine level in a 33-year-old female patient who presented to the emergency department with severe low back pain after trauma.

Conclusion: Spinal angiolipoma should not be forgotten in the differential diagnoses of the patients presenting with trauma.

Keywords: Spine, Trauma, Back pain, Angiolipoma

Introduction

The first diagnosis of spinal angiolipoma (SAL) was described in 1690 during the autopsy of a 16-year-old boy[1]. Less than 200 cases were reported until 2020[2]. Although there are some SAL reports in the lower cervical, thoracic and lumbar spine, they tend to settle, especially in the mid-thoracic region[3,4]. They present with gradually increasing symptoms in accordance with the degree of cord compression, unless intratumoral bleeding or venous thrombosis occurs[4]. They consist of varying degrees of mature fat cells and abnormal capillary sinusoidal, venous, or arterial vascular elements[5]. The majority of SAL have favorable prognoses after surgical resection[4].

In this report, we are presenting a spinal angiolipoma located at the low-thoracic region that was diagnosed after admitted to the emergency department due to trauma.

Case report

A 33-year-old female patient was brought to the emergency department due to severe back and right hip pain after falling stairs. There were severe tenderness and pain on the lower thoracic and upper lumbar regions in the physical examination. The neurological examination had no pathology. Computerized tomography (CT) of thoracolumbar region revealed multiple fractures of right lumbar vertebra transverse processes (L1, 2 and 3). The spinal canal and vertebral corpuses were evaluated as normal (Figure 1). The patient stated that her pain did not relieve despite the respectively administered intravenous paracetamol, dexketoprofen, and tramadol during her follow-up in the emergency department. The attending physician planned thoracolumbar magnetic resonance imaging (MRI) and neurosurgery consultation for possible acute disc pathologies. Although MRI showed no disc-related acute pathology, the patient was hospitalized to the ward by the neurosurgery department for pain monitorization and further investigation.

When re-evaluating CT and MRI images, a suspicious lesion on the posterior level of T11-12 was seen in the sagittal sections, and we planned contrast-enhanced MRI. An extradural lesion with diffuse contrast-enhancing at the same level was observed (Figure 2). Surgical intervention for diagnostic and therapeutic purposes was planned. The lesion was reached by laminectomy. A bright, dark red colored lesion was observed, which seemed to emerge from the left neural foramen and erode the neural foramen partially. The lesion was easily peeled off from the dura (Figure 3). The histopathologic examination confirmed the diagnosis of SAL.

Corresponding Author: Sevilay Vural **e-mail:** sevilayvural@yahoo.com
Received: 29.06.20 • **Accepted:** 13.10.20
DOI: 10.33706/jemcr.759924

DOI: 10.33706/jemcr.759924
Journal of Emergency Medicine Case Reports 2020; 11(3): 79-81

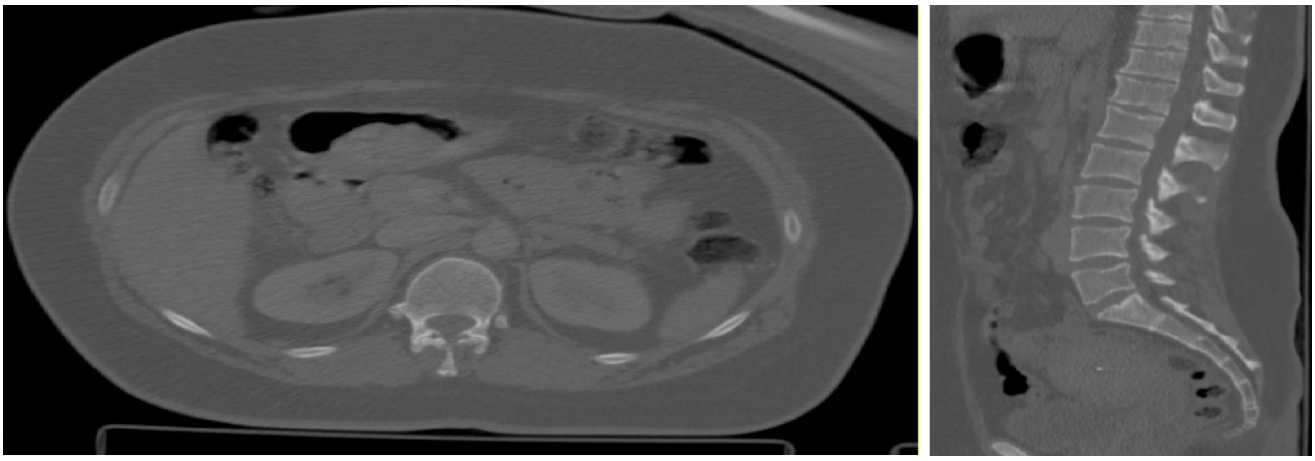

Figure 1: Computerized tomography of thoracolumbar region of the patient with transverse and sagittal views on the day of emergency department admission showed no pathology associated with the spinal canal and/or vertebral corpuses.

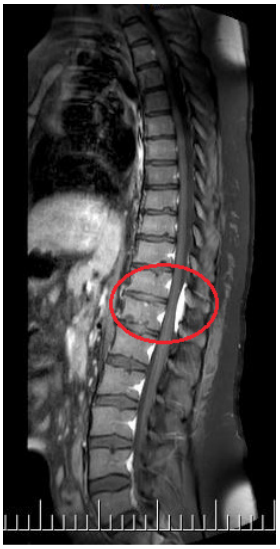

Figure 2: Magnetic resonance imaging with contrast of thoracolumbar region of the patient on the next day of emergency department admission showing a suspicious extradural lesion with diffuse contrast-enhancing on the posterior level of T11-12.

Discussion

SAL is a rare but well-defined clinical pathology that accounts for approximately 2-3% of epidural spinal tumors[6]. It is more common in females and usually seen in the fourth and fifth decades. However, several cases have been reported in the pediatric age group as well. SAL is categorized into two: non-infiltrating and infiltrating. The non-infiltrating type, which is encapsulated has good prognosis and located in the posterior or posterolateral of the spinal canal. The capsule-free infiltrating type which is found in intramedullary or intervertebral locations has poor prognosis[6]. Our case was a female patient in her third decade, and the tumor location was at the epidural area, posterior to the spinal canal.

The clinical picture of SAL presents with spinal cord compression-related symptoms. The common findings are progressive paraparesis, low back pain without radiculopathy, sensory changes in the lower extremity, and hyperreflexia[7]. Spinal cord width is determinative in the initial presenta-

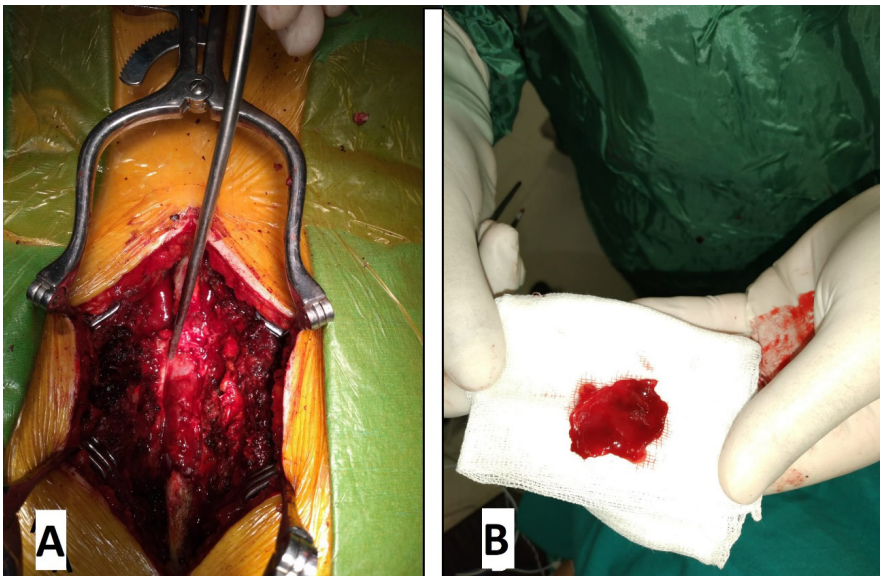

Figure 3: The appearance of the lesion after the laminectomy (A) and after peeling off from the dura.

tion of clinical findings, especially in extradural SAL cases[5]. They generally show slow progression, and the definitive diagnosis is usually made in around one year. However, the expected clinical course can be suddenly disrupted by vascular occlusion, growth, enlargement and degeneration of degenerated jab vessels, vascular stealing phenomenon, thrombosis, and bleeding into the lesion[5]. In some cases, the clinical course may be in the form of relapses as mimicking multiple sclerosis cases[5]. The medical history of our patient was insignificant except for occasional low back pain. She admitted to the emergency department with severe low back pain after trauma. There was no sensory defect or loss of strength in the neurological examination, but only severe pain on her lower back. There was no compatible traumatic finding with her persistent and refractory back pain in the tomography sections of the patient. Lumbar MRI was necessitated for the differential diagnosis of severe pain. The extradural lesion was detected during the contrast-enhanced MRI performed on the next day. The intraoperative view of the lesion was hemorrhagic. According to all, we conclude that hemorrhage was occurred due to trauma, and the pain was exacerbated by it. The appearance of the lesion on the control imaging studies, the decrease of pain in the post-operative period, and even disappearance of pain entirely after the next few days support our hypothesis.

The exact mechanism of SAL development is unknown, but the presence of various predisposing factors has been proposed like obesity, weight gain during pregnancy, and corticosteroid use[5]. Consistently, our patient was overweighted with a body mass index (BMI) of 32.5. The current data in the literature cannot point out clearly on this issue, so further investigations are needed to explain the relationship between BMI and SAL.

MRI is accepted as the gold standard in the diagnosis of SAL. It appears isointense on non-contrast T1-weighted images and hyperintense on T2-weighted images compared to other spinal tumors or epidural lipomatosis[6]. Although homogeneous enhancement on contrast-enhanced T1-weighted sections was reported in the literature, our case did not[5]. The differential diagnosis should contain lipoma, hemangioma, malignant lymphoma, and nerve sheath tumors[6]. Non-infiltrating type of SALs can be easily removed by laminectomy, and post-operative results after surgery are promising, as in our case.

Conclusion

Although SAL is rare, it is useful to keep in mind in the differential diagnoses of the patients presenting with severe back pain after trauma. Advanced radiological techniques such as MRI and contrast-enhanced techniques should be performed even if no compatible pathology on tomography, which could not explain the clinical presentation of the patient.

References

1. Berenbruch K. Ein Fall von multiplen Angiolipomen kombiniert mit einem Angiom des Rückenmark. Tübingen, Germany: Medical Faculty Universität Tübingen; 1890.
2. Carrasco Moro R, Gutiérrez Cierco JA, Martínez San Millán JS, Pian H, Martínez Rodrigo MA. Spinal extradural angiolipomas: 7 new cases and review of the literature. Neurología 2019; 34: 98-104. doi: 10.1016/j.nrl.2016.11.002.
3. Si Y, Wang Z, Pan Y, Lin G, Yu T. Spinal angiolipoma: etiology, imaging findings, classification, treatment, and prognosis. Eur Spine J 2014; 23: 417-25. doi: 10.1007/s00586-013-3073-1.
4. Kang H II, Kim TW, Kim EU, Park KH. Angiolipoma on the Lumbar Spine. Korean J Spine 2017; 14: 112-114. doi: 10.14245/kjs.2017.14.3.112.
5. Hungs M, Paré LS. Spinal Angiolipoma: Case Report and Literature Review. J Spinal Cord Med 2008; 31: 315-8. doi: 10.1080/10790268.2008.
6. Fujiwara H, Kaito T, Takenaka S, Makino T, Yonenobu K. Thoracic spinal epidural angiolipoma: report of two cases and review of the literature. Turk Neurosurg 2013; 23: 271-7. doi: 10.5137/1019-5149.JTN.4860-11.0.
7. Ghanta RK, Koti K, Dandamudi S. Spinal epidural angiolipoma: A rare cause of spinal cord compression. J Neurosci Rural Pract 2012; 3: 341-3. doi: 10.4103/0976-3147.102617.