



Lumbar Epidural Varicose Vein: Early Neurological Improvement and Late Radiological Full Recovery with Surgery; The Importance of Magnetic Resonance Imaging in Follow-Up

Lomber Epidural Venöz Varis: Cerrahi ile Erken Nörolojik İyileşme ve Geç Radyolojik Tam Düzelmeye; İzlemede Manyetik Rezonans Görüntülemenin Önemi

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ABSTRACT

A lumbar epidural varicose vein is a rare clinical condition that can lead to neurological deficits. 3 types of lumbar epidural varicose veins were described according to the magnetic resonance imaging (MRI) findings: Type 1 is a thrombosed dilated epidural vein, type 2 is a non-thrombosed dilated epidural vein and type 3 is a sub-membraneous epidural hematoma. Enlarged epidural venous plexuses must be decompressed if they have lead to a neurological deficit. Surgical treatment is by excision or disrupting the cyst's integrity. We present a case of lumbar epidural varicose vein that was surgically treated twice and showed no radiological change despite the disruption of integrity with a partial excision. The lesion spontaneously and completely disappeared in the late period. We emphasize the importance of MRI in follow-up.

KEYWORDS: Lumbar epidural varicose vein, Magnetic resonance imaging, Surgery

ÖZ

Lomber epidural varis nadir görülen ve hastalarda nörolojik defisitlere yol açabilen klinik bir durumdur. Lomber epidural varislerin manyetik rezonans görüntüleme (MRG) bulgularına göre 3 tipi tanımlanmıştır: Tip 1: tromboze dilate epidural ven Tip 2: nontromboze dilate epidural ven Tip 3: submembranöz epidural hematoma. Genişlemiş epidural venöz pleksuslar hastalarda nörolojik defisite yol açıyorsa mutlaka dekomprese edilmelidir Cerrahi tedavi ile eksizye edilerek veya bütünlükleri bozularak hastaların cerrahi kondisyonları düzeltilebilir. Yazımızda iki kez cerrahi olarak tedavi edilen ve parsiyel eksizyonla bütünlüğü bozulmasına rağmen radyolojik olarak değişim göstermeyen ancak geç dönemde spontan tamamen ortadan kaybolan bir lomber epidural varis olgusu sunduk ve MRG'nin takipteki önemini vurgulamaya çalıştık.

ANAHTAR SÖZCÜKLER: Lomber epidural venöz varis, Manyetik rezonans görüntüleme, Cerrahi

INTRODUCTION

The incidence of a lumbar epidural varicose vein is 0.067%-1.2% in various studies (5). It causes location-related symptoms and can lead to radiculopathy or myelopathy. Surgical treatment is with laminectomy, excision or thermocoagulation with bipolar cautery. Abdominal bleeding can be encountered during surgery (1, 5).

We present a lumbar epidural varicose case at the L1-2 level that caused severe weakness in the left leg. Total laminectomy and partial excision were performed. Despite clinical recovery, the lesion dimensions did not change on magnetic resonance imaging (MRI) in the early period. The patient was taken to surgery for bipolar thermocoagulation but follow-up MRI

showed no decrease in lesion size. The lesion spontaneously disappeared in 3rd month follow-up MRI. We emphasize in this article that radiological recovery can be delayed in epidural varicose vein treated surgically and that MRI follow-up is useful as the lesions can become symptomatic again postoperatively, although not seen in our case.

CASE REPORT

A 54-year-old patient presented to our clinic with symptoms of bilateral lower extremity numbness, weakness in the left leg and inability to walk for 10 days. Deep tendon reflexes (DTRs) were normo-active and the distal pulses were patent. A lesion reported as an epidural mass or hematoma at the level of L1-2 was seen on MRI (Figure 1A, B). The patient

underwent emergency surgery. L1 laminectomy and bilateral L2 foraminotomy were performed. A biopsy was taken from the enlarged venous structure at the epidural region and bipolar cauterization was performed for the lesion. The deficits improved in the postoperative early period. No regression was seen in the size of the venous structure at the follow-up MRI (Figure 2A, B). Postoperative spinal selective angiography was normal. The pathology result was a degenerated venous plexus containing erythrocytes adjacent to the vessel structure and fibrin in the lumen together with

degenerated connective tissue elements. The patient was again operated and bipolar thermocoagulation repeated but no lesion shrinkage was seen on the follow-up MRI (Figure 3A, B). The lesion had disappeared on the postoperative 3rd month follow-up MRI (Figure 4A, B) and the patient had no neurological deficit.

DISCUSSION

Lumbar epidural varicose vein is a pathological structure that develops as a result of vertebral venous plexus enlargement.

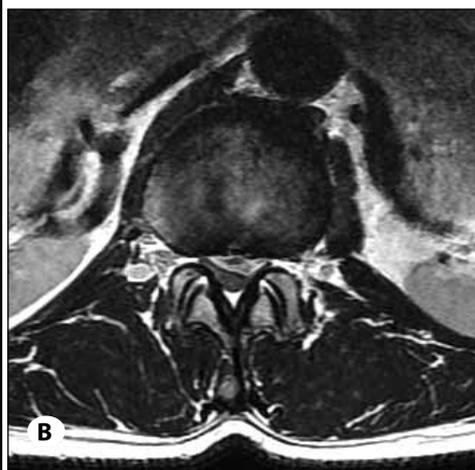


Figure 1: A) T2A sagittal and **B)** T2A axial MRI images: A fusiform mass lesion with mild hypertintense signal located in the midline-left posterolateral and compressing the thecal sac at the anterior epidural distance at the L1-2 disc level is seen.

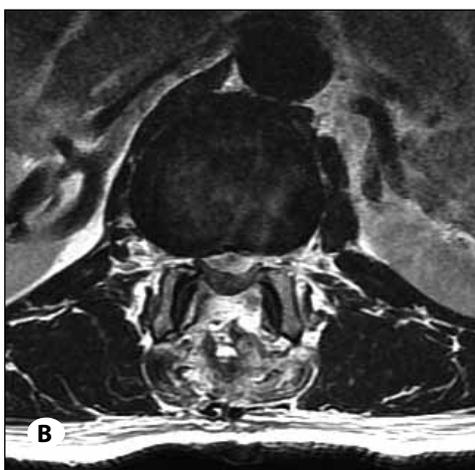


Figure 2: A) T2A sagittal and **B)** T2A axial MRI images: The defined lesion and other findings are similarly seen. The relevant posterior elements have a defective appearance secondary to surgery.

Although the formation mechanisms are not clearly known, it is thought to be an increase in venous pressure in venous structures lacking valves and a blockage of flow towards the vena cava (6). Intraabdominal pressure increases due to reasons such as pregnancy, intraabdominal mass or obesity can increase inferior vena cava pressure and then dilate the spinal epidural venous plexus and compress the cord or nerve roots (2, 7).

Hanley et al. have described 3 types of lumbar epidural varicose veins according to the MRI findings: Type 1 is a

thrombosed dilated epidural vein, type 2 is a non-thrombosed dilated epidural vein and type 3 is a sub-membraneous epidural hematoma (6). Our case was consistent with type 2.

Lumbar epidural varicose veins that cause myelopathy and radiculopathy are quite rare. They are usually diagnosed intraoperatively (9). Thrombosed epidural varicose veins are usually confused with herniated nucleus pulposus on preoperative MRI (10). An epidural varicose vein thought to be cystic nerve sheath tumor and operated on has been reported (1). A patient who was first diagnosed with nerve



Figure 3: A) T2A sagittal and **B)** T2A axial MRI images: Defined lesion has become smaller but is still present.



Figure 4: A) T2A sagittal and **B)** T2A axial MRI images: The epidural lesion at the L1-2 disc level seen on previous examinations has completely disappeared.

sheath tumor was diagnosed with epidural varicose vein by monitoring the changes in MRI with breath holding and valsalva maneuvers when the patient did not accept surgery (8). Although cases causing radiculopathy are mostly reported (2, 5) these lesions have been shown to lead to neurogenic claudication in a case without spinal stenosis (3).

The natural course of epidural varicose veins is not known well. A female patient who defined right sciatalgia during exercise was diagnosed with epidural varicose vein with MRI, and shrinkage in the size of the lesion and regression in symptoms were reported on follow-up MRIs taken every 2 weeks (12).

The most appropriate treatment for lumbar epidural varicose veins is surgery if they are symptomatic. However, treatment can be conservative if there are no significant neurological findings (4, 12). Laminectomy, excision and bipolar thermo-coagulation can be used in surgery (11). Our patient's symptoms and neurological deficit improved with partial varicose excision and total laminectomy.

CONCLUSION

Enlarged epidural venous plexuses must be decompressed if they have lead to a neurological deficit. Clinical recovery is possible with decompression. However, the radiological disappearance of the lesion is important in terms of the clinical condition not recurring. The patients should therefore be frequently followed-up with MRIs even if decompression provides clinical recovery.

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