



# Smooth Connection:

## *A Rare Epidural Mass in an HIV Patient*

Nader Pahlevan<sup>1</sup>, Logan Powell<sup>1</sup>, Charlotte S. Taylor MD<sup>2</sup>

1. University of Mississippi School of Medicine

2. Department of Radiology, Neuroradiology,

University of Mississippi Medical Center, Jackson, MS

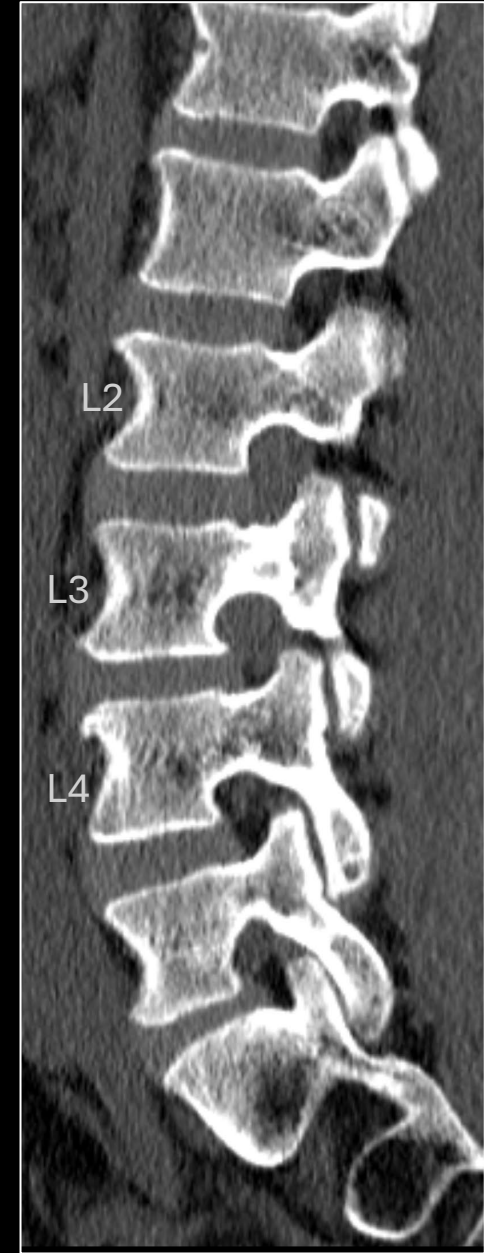
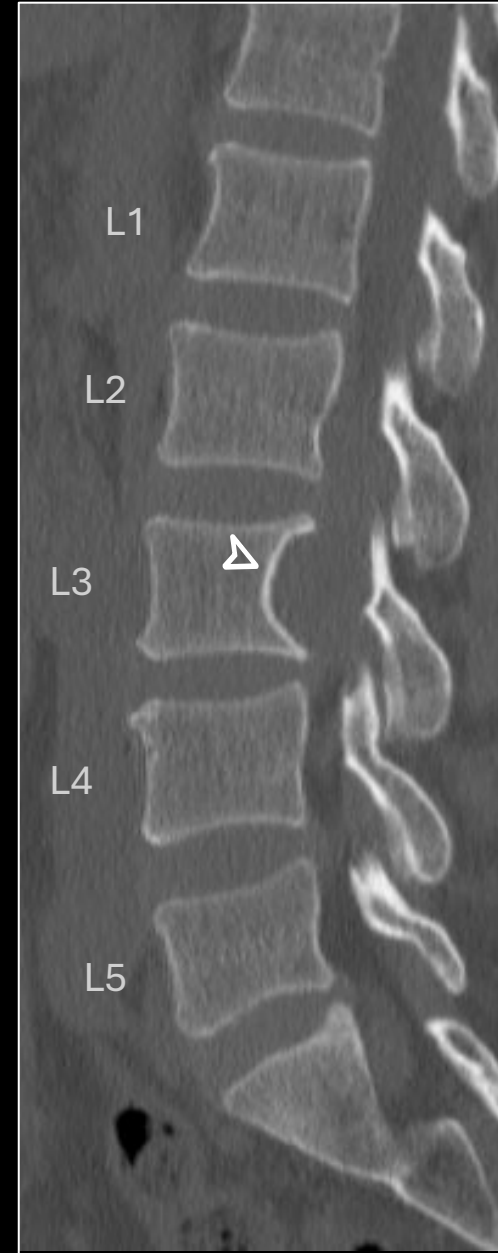
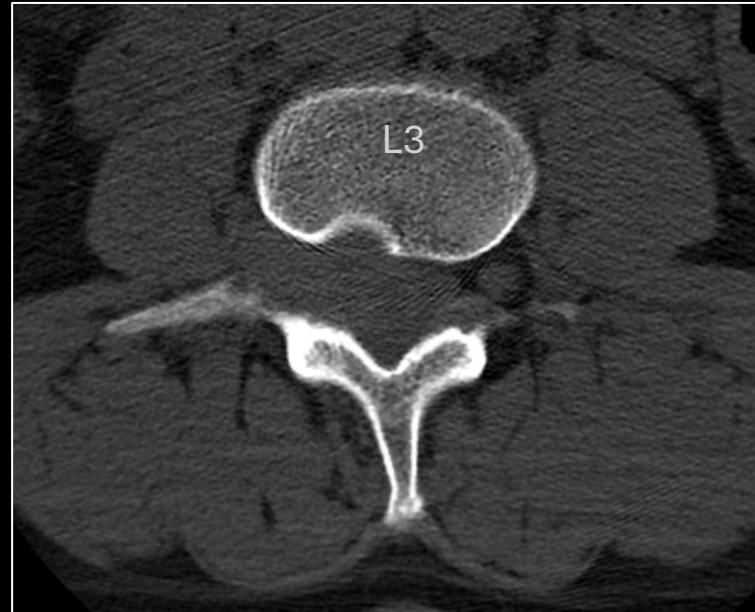
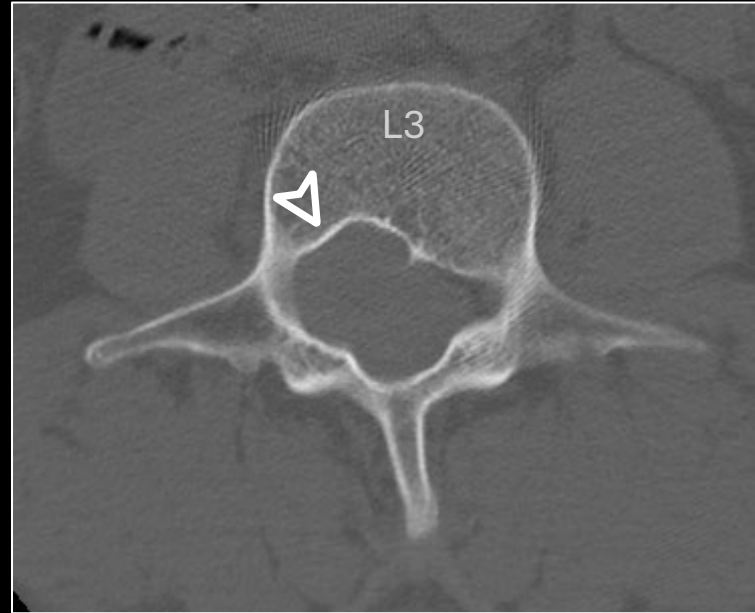


# Clinical Presentation

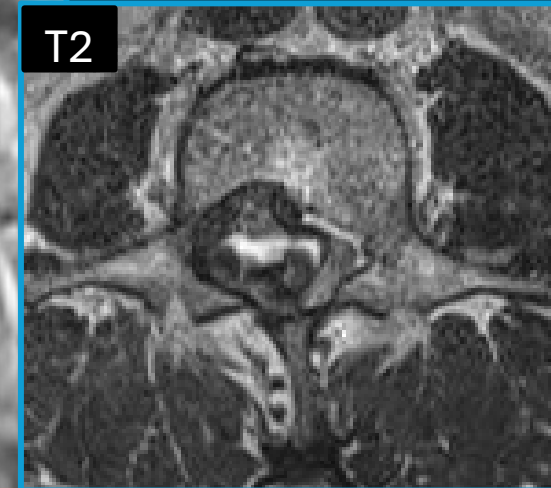
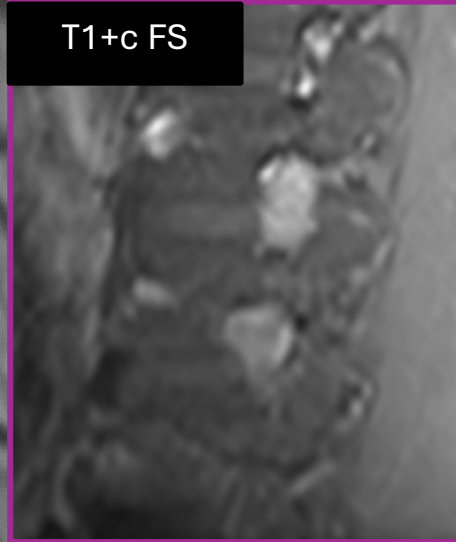
- 51-year-old male with a history of Human immunodeficiency virus (HIV) with clinical signs of acquired immunodeficiency syndrome (AIDS) and chronic hepatitis B virus (HBV) presents with lower back pain and lower extremity weakness.

# CT Lumbar Spine

Smooth, benign appearing bony remodeling with scalloping of the posterior L3 vertebral body and right L2-L3 and L3-L4 neural foramina, suggestive of a benign and longstanding process. Note the intact cortex of the posterior vertebral body, favoring against an aggressive mass.



# MRI Lumbar Spine

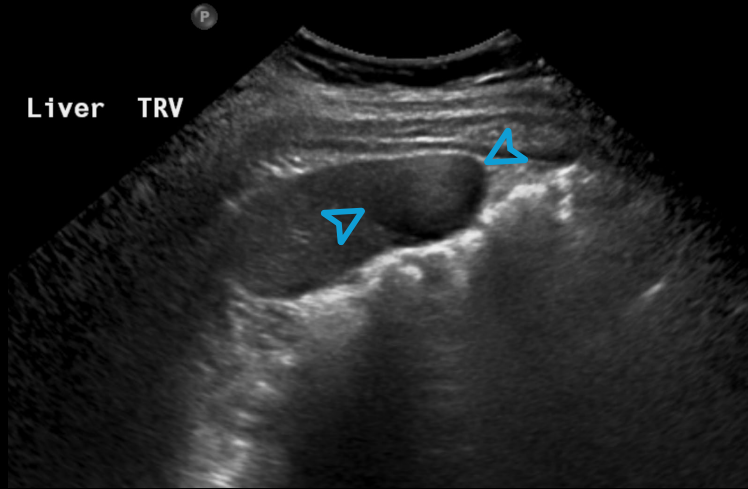


Smooth, benign appearing bony remodeling with scalloping of the posterior L3 vertebral body and a T1 isointense epidural mass.

Mass enhances homogeneously with tapered margins along the superior and inferior epidural space and extension into the L2-L3 and L3-L4 neural foramina.

Mass is peripherally hypointense to disc, isointense to skeletal muscle on T2 weighted imaging.

# Abdominal Imaging



A liver mass was also discovered on ultrasound performed for cirrhosis screening in the setting of hepatitis B infection.

The mass did not have typical features of hepatocellular carcinoma on CT with progressive delayed enhancement.



Biopsy was recommended and performed; results showed a smooth muscle tumor (SMT) with positive staining for Epstein Barr virus.

# Management

- Once the patient became symptomatic, CT and MRI with and without contrast were acquired to visualize the lesion and locate a primary or potentially metastatic site.
- The patient was referred to Neurosurgery for surgical resection of the epidural mass.
- The pathology report revealed that the mass was positive for both desmin and smooth muscle actin consistent with leiomyoma.
- The patient had a liver mass incidentally found during abdominal ultrasound screening for cirrhosis. An MRI with and without contrast was ordered. He was then referred to interventional radiology for liver mass biopsy.
- The pathology report showed that the liver mass was consistent with smooth muscle tumor (SMT) that stained positive for Epstein Barr Virus (EBV).

# Outcome

Both masses were confirmed to be benign, thereby alleviating concerns regarding metastatic disease. The patient did not experience any complications post-procedure, his back pain improved, and his lower extremity strength returned to baseline. The patient would continue to follow up with infectious disease for treatment of his HIV, and his liver mass would be continually monitored for growth.

# Take Home Points

- While leiomyoma arising within the epidural space is extremely rare, it has been reported that its incidence in AIDS patients has been increasing since the 1990s.<sup>1</sup> The central nervous system is shown to be the most common site.<sup>1</sup>
- Literature has also shown a higher prevalence of SMT in the liver in individuals that are immunocompromised, such as those with HIV, and especially in patients with a history of other leiomyomas in the body.<sup>2</sup>
- EBV-SMT has been shown to have a vast clinical outcome but may exhibit a more favorable prognosis when compared to leiomyosarcoma.<sup>1</sup>
- There are limited cases published of EBV-SMT. While the prognosis is relatively favorable<sup>1</sup>, the mass can be missed early in the disease process, eventually leading to symptoms via mass effect – as seen in this patient. Delayed diagnosis thus increases patient morbidity. It is important to be cognizant of this type of mass in this patient population.



# References

1. Purgina B, Rao UN, Miettinen M, Pantanowitz L. AIDS-Related EBV-Associated Smooth Muscle Tumors: A Review of 64 Published Cases. *Patholog Res Int*. 2011 Mar 10;2011:561548. doi: 10.4061/2011/561548. PMID: 21437186; PMCID: PMC3062098.
2. Dekate J, Chetty R. Epstein-Barr Virus-Associated Smooth Muscle Tumor. *Arch Pathol Lab Med*. 2016 Jul;140(7):718-22. doi: 10.5858/arpa.2015-0120-RS. PMID: 27362573.