

1556 - Worsening weakness after posterior cervical decompression and fusion; the challenge in diagnosis.

 Fri, Mar 6  6:00 PM – 7:00 PM

Case Diagnosis: Central cord syndrome vs White cord syndrome secondary to repeated epidural hematoma accumulation due to spinal AV fistula decompression.

Case Description:

A 43 year old patient who underwent posterior C3-C7 decompression and fusion was found to have sudden onset quadriparesis and lack of pain and temperature sense, more prominent on the upper extremities a few days following the procedure. MRI demonstrated acute spinal epidural hematoma and patient was sent to OR for emergency revision and evacuation. Patient's symptoms improved but after a couple days his symptoms again worsened. Repeat MRI demonstrated recurrent spinal epidural hematoma, increased T2 signal intensity in cervical spinal cord extending to thoracic spine, and C7-T5 dural arteriovenous fistula. Patient went to the OR again for evacuation of hematoma, revision of fusion, and resection of AV fistula. Patient's lower extremity symptoms improved immediately post-op but was having continued upper extremity weakness. He was given steroids and transferred to the acute rehabilitation unit.

Discussions: In this case, sudden quadriparesis after cervical decompression and fusion can be explained by epidural hematoma and AV malformation along with hyperintensity on T2 MRI, previously reported as "White Cord Syndrome." Mechanism is thought to be due to reperfusion injury of the spinal cord; the sudden decompression of spinal cord leads to rapid cord expansion and increased blood supply, resulting in disruption of blood-spinal cord barrier and leading to reperfusion injury. Persistent motor deficit in the upper extremity despite the evacuation of epidural hematoma and resection of AV fistula suggest clinical features of central cord syndrome. Spinal arteriovenous malformations are known to be associated with incomplete spinal cord injuries, particularly anterior spinal syndrome.

Conclusions:

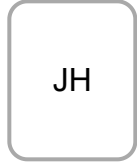
The neurological deterioration after decompression warrants investigation of multiple possible etiologies including hematoma, underrecognized AV malformation and rarely white cord syndrome as illustrated in this case.

Presenting Author(s)



Steven Kim – Medical Student, UNR School of Medicine, Reno, Nevada

Co-Author(s)

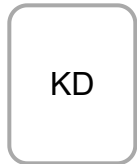


Joseph Hill – PM&R Resident, Sunrise Hospital GME/HCA, Las Vegas, Nevada



Se Won Lee – PM&R Residency Program Director, Sunrise Health GME Consortium at MountainView Medical Center, Las Vegas, Nevada

Corresponding Author(s)



Karyn Doddy – Attending Physician, MountainView Medical Center / Sunrise Health GME Consortium, Las Vegas, Nevada



Farzin Farhandnejad – Attending Physician / Medical Director Acute Rehabilitation Unit at MountainView Medical Center, MountainView Medical Center / Sunrise Health GME Consortium, Las Vegas, Nevada