

SENSORIMOTOR CHANGES AFTER SURGERY:
NEUROPATHY OR DURAL ARTERIOVENOUS FISTULA?

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Intro:

- Neurologic injury after total knee replacement is usually from mechanical traction, compression, arterial injury, extended tourniquet time.
- Most common post-TKA injury is ipsilateral fibular neuropathy
- **A rare injury is concurrent spinal dural arteriovenous fistula bypassing spinal capillary beds leading to insidious myelopathic symptoms.**

Case:

- 79M with lumbar stenosis and bilateral S1 subacute motor radiculopathy undergoes left TKA for OA
- Immediately post-op, he develops back pain with ascending bilateral foot numbness and quad/glute weakness
- **Exam shows myelopathic gait, bilateral distal sensory loss, unilateral hyperreflexia, proximal leg weakness**
- Lumbar MR showed multi-level stenosis with L5 anterolisthesis and R S1 nerve abutment
- **Thoracic MRI/MRA showed increased T2 cord signal at T5 - T12 with a left T4-5 type 1 spinal dural AV fistula**
- He underwent T5 laminectomy with fistula ligation with no complications.
- Eight months post-op, he has improved walking endurance with improved leg weakness, sensory changes, and impaired balance

Discussion:

- **Spinal dural AV fistulas lead to spinal cord ischemia via venous congestion/hypertension, reduced arteriovenous pressure, vascular wall remodeling which can lead to perfusion, thrombosis, or hemorrhage**
- Patients present with radicular pain, sensorimotor changes, gait abnormality, incontinence
- Gold standard diagnostic tool is spinal angiography
- **Early endovascular embolization or surgical ligation may halt symptom progression though recovery depends on pre-surgical symptom severity/duration**

References:

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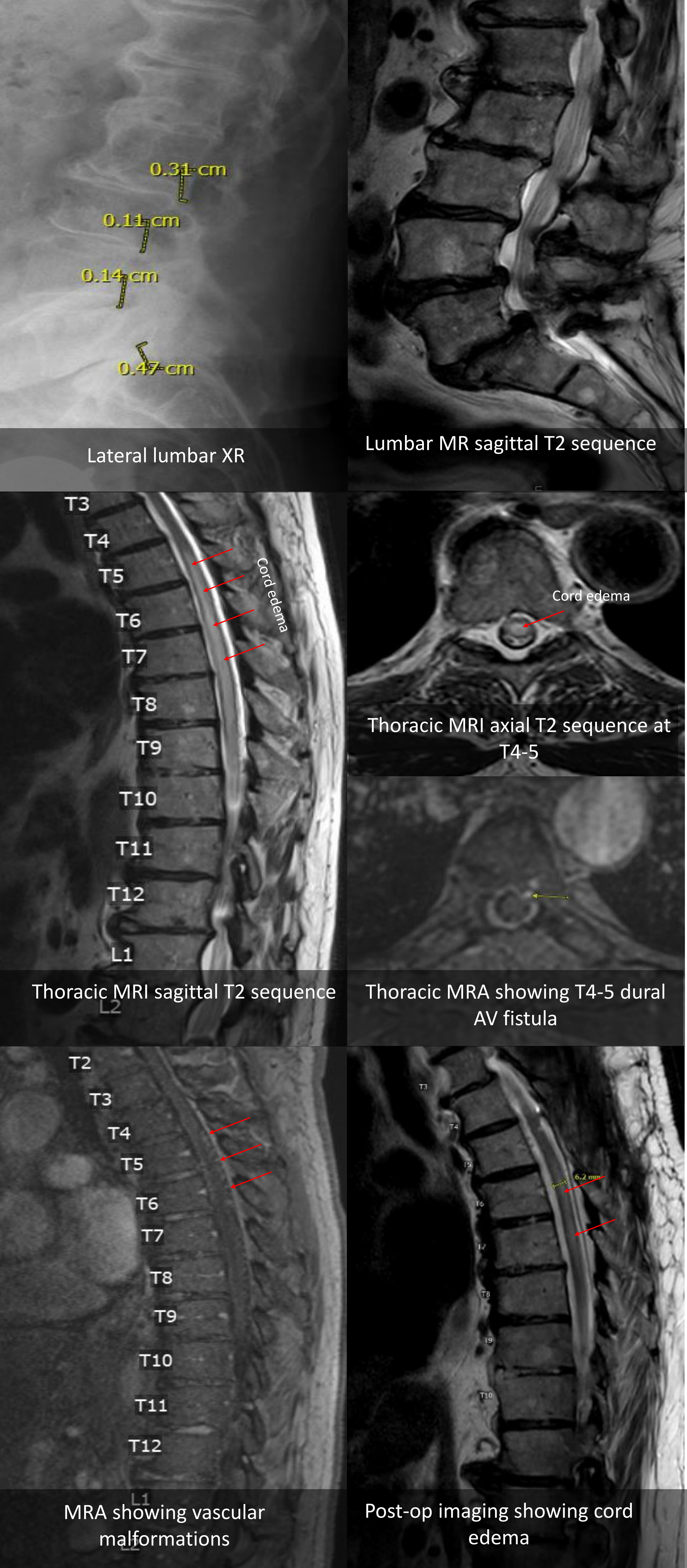
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Spinal dural AV fistulas cause spinal cord ischemia and present as insidious myelopathy.

Patients who develop unexpected post-surgical complications warrant broad workup.

Early embolization/ligation may halt symptom progression, but recovery depends on pre-surgical neurologic severity/duration.



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