

A Unique Case of Idiopathic Paraspinal Muscle Atrophy - A Case Report

NYU Langone Health

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Case Description

Pertinent History:

- 76-year-old M w/ no pertinent PMHx who presented with lower back pain that began insidiously ~7 years ago.
- Sx: Severe, sharp, and constant right > left lower back pain without radicular symptoms, exacerbated by standing.
 Progressive decline in function, mobility, and ADLs.

Physical Exam:

o Neurologically benign with a (+) Kemp's test bilaterally.

· Prior Interventions:

TLSO brace and 5 months of PT with some improvement.
Acupuncture, acetaminophen, and cyclobenzaprine provided little relief.

· Imaging:

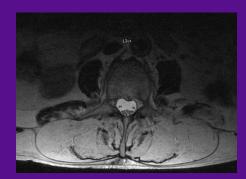
 Lumbar MRI: Severe muscle atrophy of the paraspinals with fatty infiltration, in addition to facet arthropathy (Images 1 & 2).

Intervention:

- Due to the severity of atrophy in an individual w/ otherwise normal muscle tone, referred to neurology where NCV/EMG demonstrated no evidence of primary myopathic process.
- o Bilateral L3,4,5 MBB followed by RFA

· Conclusion:

 >50% improvement in pain for ~4 months. At a 6 month follow up, he reported ongoing functional improvement and decreased acetaminophen requirements. Planned ongoing home exercises.





Images 1 & 2: Axial T1 and Sagittal T2 lumbar MRI demonstrating severe paraspinal fatty atrophy

Discussion

- Paraspinal muscle atrophy (PMA) is recognized as a source of lower back pain and ultimate dysfunction. ¹
- While correlation is difficult to assess, PMA is associated with other degenerative spine pathologies (e.g. facet arthropathy and lumbar spinal stenosis).
- It is suspected the lack of supporting structure can lead to increased force distributed throughout the axial column.
- In this case, despite lack of muscular support, RFA helped the patient to stand for longer and improved his mobility.
- Notably, PMA is associated with worse outcomes after spinal surgery, highlighting the role of pain management.⁴

Take Away Point

Pain management serves an integral role in managing patients with paraspinal muscle atrophy given association with other degenerative spine pathologies and worse outcomes with spinal surgery.

References

- 1. Waddelink, European Spine Journal, 2023.
- 2. Teichtahl, Spine Journal, 2015.
- 3. Guven, Journal of Neurosurgery: Spine, 2024.
- 4. Mandelli, Frontiers of Neurology, 2021.