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

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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**:
  - 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.
  - 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). [2,3]
- 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.