

Background

- Paraspinal Compartment Syndrome (PCS) is separated into two major categories:
 - Acute unremitting
 - Chronic intermittent
- PCS is inflammation of paraspinal muscles within the thoracolumbar compartment
- Typical presenting features:
 - Excruciating localized back pain
 - Unilateral congestion of paraspinal muscles
 - Localized loss of sensation
 - CPK > 2,000 – 40,000
 - Elevated compartment pressures 70-80 mmHg

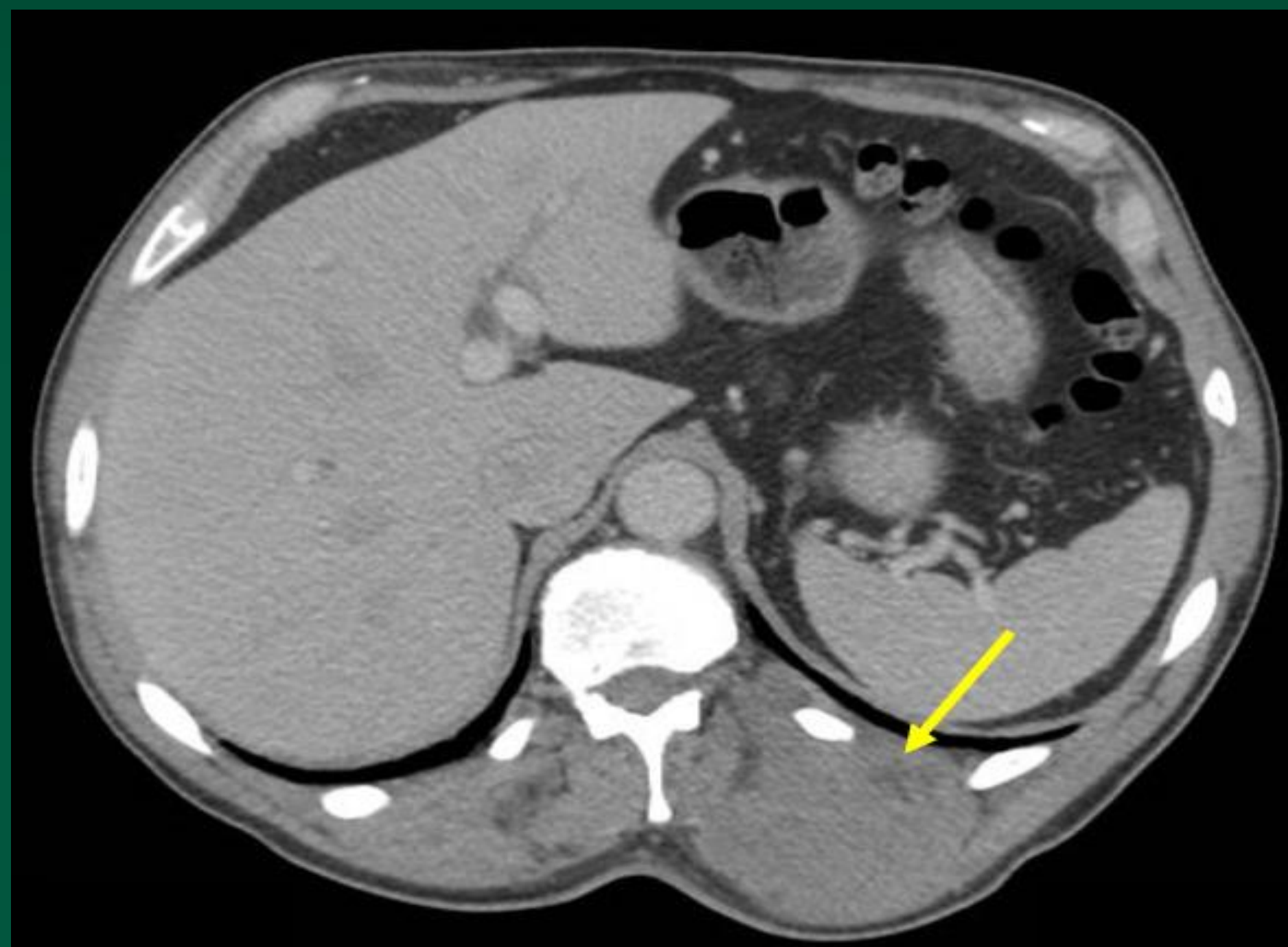


Figure 1: CT image showing congested L paraspinal muscles

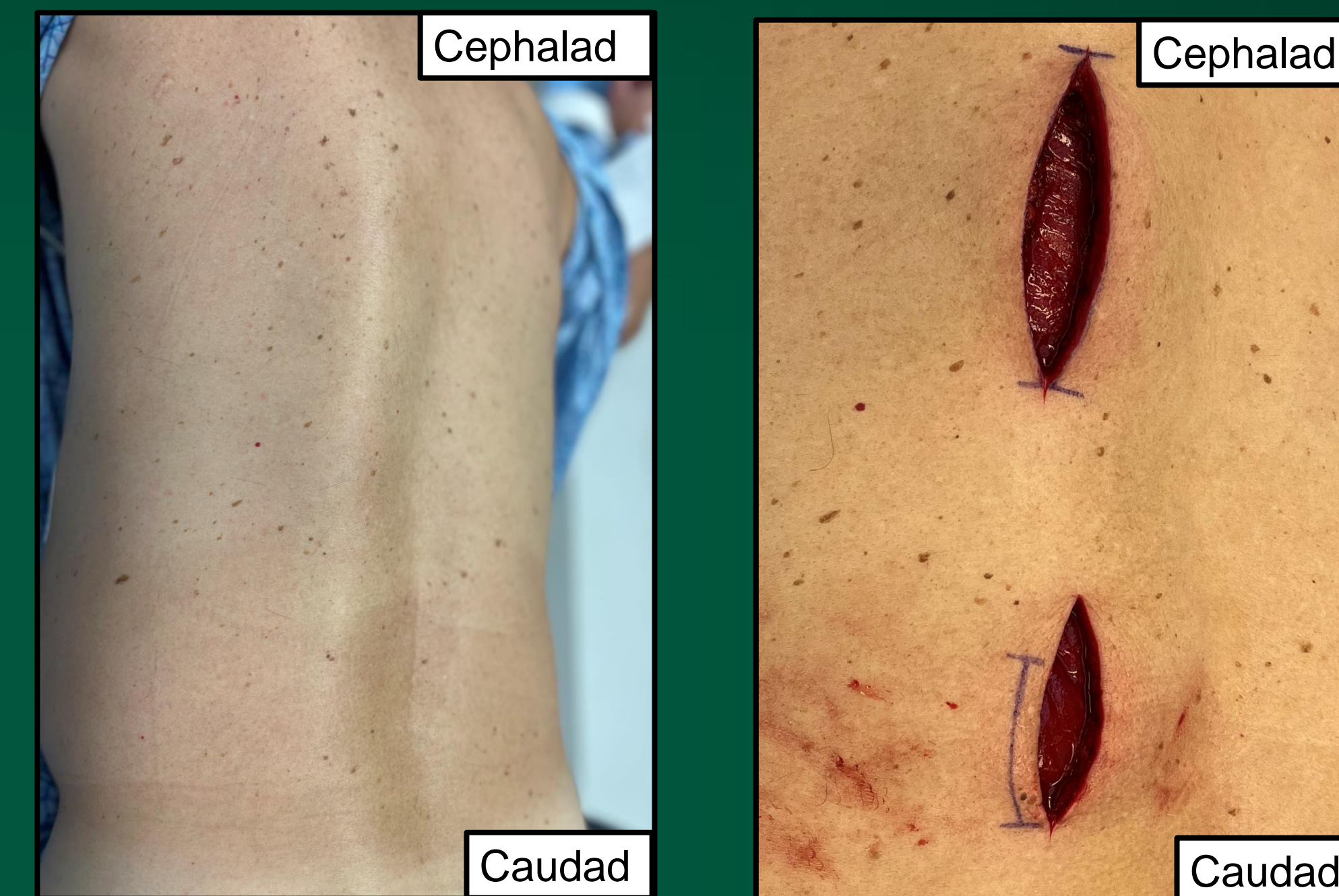


Figure 2: Gross intra-operative findings

Case Report

- 60-year-old outdoorsman presented with symptoms of acute back pain in left lumbar region with ipsilateral thigh numbness
- Past medical/surgical history was significant for McArdle's Disease and bilateral forearm fasciotomies
- Objective:
 - Tense left paraspinal musculature painful to palpation (Figure 2)
 - Serum creatine kinase >23,000
 - Congested paraspinal musculature of the left erector spinae muscle group congestion

Outcome

- Thoracolumbar fasciotomy was performed
- Incisions overlying tense musculature (Figure 2)
- Fascia incised sharply to deliver congested paraspinal muscles
- No obvious myonecrosis
- Wound reexplored on hospital day three showed viable muscle, skin was closure
- Patient recovered from surgery well with CK down-trending
- Four-week post-op patient reports complete recovery and return to physical activity

Conclusion

This case represents the first reported atraumatic acute lumbar paraspinal compartment syndrome secondary to McArdle's Disease. Prompt operative intervention was effective in this case and resulted in an excellent functional outcome.

References

- C DAlexander, W., N. Low, and G. Pratt, Acute lumbar paraspinal compartment syndrome: a systematic review. *ANZ J Surg*, 2018. 88(9): p. 854-859.
- Nathan, S.T., C.S. Roberts, and D. Deliberato, Lumbar paraspinal compartment syndrome. *International orthopaedics*, 2012. 36(6): p. 1221-1227.
- Edwards, N.M., D. Xuereb, and A. Mizzi, Acute Lumbar Paraspinal Compartment Syndrome After Strenuous Exercise: A Case Report. *JBJS Case Connect*, 2020. 10(3): p. e2000023.
- Casey, M.-C., A.M. Ryan, and M. O'Shaughnessy, McArdle disease: an important consideration in atraumatic compartment syndrome. *European Journal of Plastic Surgery*, 2022. 45(2): p. 361-363.