Lumbar Interspinous Enthesopathy Treated with Bupivacaine: A Case Study

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Case Diagnosis

Chronic lumbar spine pain secondary to enthesopathy of interspinous ligaments

Case Description

- 22-year-old female collegiate swimmer with progressive, atraumatic low back pain of more than 3 years duration.
- Aching quality throughout the lumbar and sacral areas with occasional paresthesias down the right leg.
- Remained active with competitive swimming, resistance training, and yoga with intermittent limitation due to pain.
- Minimal benefit from oral non-steroidals and muscle relaxants, nor 6-month trial of duloxetine and specific core strengthening program with physical therapy.
- Lumbar MRI revealed mild degenerative disc disease at L4-5 with a small right foraminal disc protrusion, although no significant central canal or foraminal stenosis was evident.



Figure 1: Point of maximal tenderness in midline upper lumbar region







Assessment / Results

Intervention:

Tenderness noted in upper lumbar interspinous region. This was marked and prepped with fluoroscopic guidance (Figure 1).

3cc 0.5% bupivacaine injected into each L1-2 and L2-3 interspinous ligament under fluoroscopic guidance.

- At two weeks, patient reported 60% improvement and greater tolerance of biking, running, and prolonged sitting.
- At one-month follow-up, patient reported overall 75% improvement and ongoing resolution of upper lumbar pain.
- Oswestry Disability Index score improved by 10 points from baseline.

Discussion

Lumbar interspinous ligaments are innervated by medial branches of lumbar dorsal rami. Although significance of these ligaments as a primary pain generator has yet to be established, magnetic imaging and postmortem studies have demonstrated degeneration of the interspinous ligaments. Interspinous ligament steroid injections have been described for treatment of symptomatic Baastrup's disease with degeneration of both the spinous processes and interspinous soft tissues. In this case, the patient received several weeks of substantial pain relief with infiltration of anesthetic only, allowing for greater participation in physical activity.

Conclusion

We present a case of chronic lumbar spine pain secondary to enthesopathy of interspinous ligaments successfully diagnosed and treated with injection of anesthetic.