Perineural Injection Technique for Chronic Low Back Pain Secondary to Cluneal Nerve Entrapment: A Case Report

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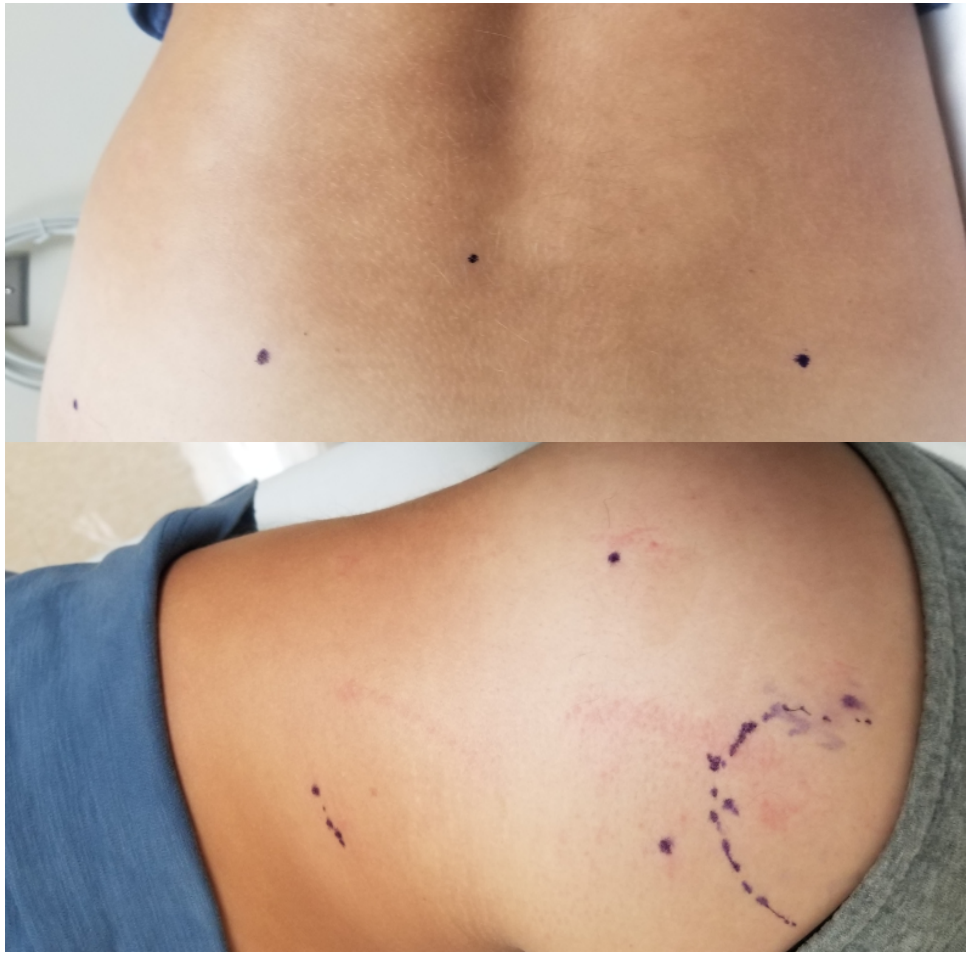
Introduction

The superior and middle cluneal nerves are cutaneous sensory nerves that dominate sensation in the lumbar and gluteal region that are a relatively common yet overlooked cause of low back pain when they become entrapped as they penetrate the lumbosacral fascia after a lumbar strain and can mimic SIJ pathology and lumbar radiculopathy. Targeting these nerves with perineural injection technique may provide effective long-term pain relief.

Case Description

Mr. S is a 39 year old male who presented with chronic low back pain for 3 years after suffering a deadlifting injury. He trialed lumbosacral prolotherapy, PRP injections to bilateral SIJs, and physical therapy without improvement. He was unable to bend forward and lift 20kg without experiencing a severe pain exacerbation, but he remained active with swimming, biking, and hiking. His goal was to return to weight lifting activities with reduced pain. The exam noted pain with tenderness to palpation in the distribution of the superior and middle cluneal nerves with paresthesias radiating down the left lower extremity in the L5 distribution. A series of 8 rounds of landmark guided injections containing lidocaine 10mL mixed with D5W (1mg/1mL) at each point were performed to the tender points using a combination of John Lyftogt and Howard Rosen's techniques. On completion the patient reported ability to resume pain free weightlifting activities at his prior level of intensity.



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Discussion

Although cluneal nerve entrapment is a relatively common cause of chronic low back pain, it is infrequently diagnosed because it not only closely mimics lumbar radiculopathy, but also may be overlooked. Up to 84% of CNE patients report paresthesias radiating into the lower extremities. Tenderness to palpation in the cluneal nerve distribution with resolution of symptoms following cluneal nerve block is diagnostic. While studies have shown limited improvement following 1-3 nerve blocks, adding dextrose to the lidocaine and increasing the number of sessions may provide more relief for longer periods as in this case. Evidence suggests that some forms of chronic pain may be caused and effectively treated by TRPV-1 receptors on cutaneous nerves which are potentially downregulated by dextrose as targeted in PIT, however, the mechanism may simply be hydrodissection of the sensory nerves involved.

Conclusion

Perineural injection technique should be considered in conjunction with physical therapyas a safe and effective treatment for cluneal nerve entrapment and further research should be conducted to determine its mechanism of action and efficacy.

References

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