



Viscosupplementation for knee osteoarthritis after radiofrequency ablation of the genicular nerve: a case report

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Introduction

Knee pain represents a source of significant disability and reduced quality of life. Treatment options vary depending on etiology but broadly include physical therapy, medications, injections, or surgery. Knee osteoarthritis (OA), or degenerative joint disease, is one of the most common causes of knee pain and frequently seen in the veteran population.



Figure 1. Knee osteoarthritis anatomy a. Normal knee anatomy b. Pathologic changes seen in knee OA include joint space narrowing, cartilage loss, and bone spurs

Case Description

A 57-year-old male veteran uncommonly received knee viscosupplementation (Hyalgan[®]) after radiofrequency ablation (RFA). He had been receiving Hyalgan[®] injections (series of 3 injections every 6 months) to knees for mild-to-moderate osteoarthritis (OA) with adequate pain relief (50-70% relief for 4-6 months) for 5 years. Upon presentation of worsened left knee pain after a mild hyperextension injury and OA flare, he received a course of physical therapy and bracing without pain relief. He then had left genicular nerve block with 50% pain relief, and subsequent RFA. At 2 months post-RFA, he reported 35% pain relief and received a series of Hyalgan[®] injections.

Procedure

Radio frequency ablation was performed with a 17 gauge needle under fluoroscopy. The needle was heated to 60°C for 230 seconds at the location of the superior lateral, superior medial, and inferior medial genicular nerves. The burn was followed by injection of 80mg depmedrol and 10mg of bupivacaine into each site.

Imaging



Figure 2. The tibial nerve gives rise to the superior and inferior medial genicular nerve. The common peroneal nerve gives rise to the superior and inferior lateral genicular nerve. The latter is not targeted during RFA due to the risk of foot drop from accidentally injecting/ablating the common peroneal nerve.



Figure 3. Anterior-posterior fluoroscopic view of the left knee. Needles were advanced to the positions of the superior and inferior medial and superior lateral genicular nerves. Typically genicular nerve block and/or RFA is indicated for those who failed conservative treatment and opt against or are not candidates for surgery.

Conclusion

Viscosupplementation after RFA did not improve functional outcomes or lead to reduction in pain at 3 month follow-up.

Discussion

More recently RFA has garnered interest as a viable option over surgery for pain. Traditionally, joint viscosupplementation is used to improve pain and mobility from knee OA after other nonsurgical options have failed, usually preceding RFA. There is a paucity of literature describing potential additive benefits of viscosupplementation after genicular nerve RFA for both pain and function. This is the first case at our facility using viscosupplementation after RFA in an attempt to achieve optimal management of knee OA.

References

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