INTRODUCTION

- Cooled radiofrequency ablation (C-RFA) is a novel technique for joint denervation via larger lesion size compared to traditional radiofrequency ablation.
- This procedure has been previously described for facet and sacroiliac joint denervation.
- There is a paucity of literature addressing this technique for the treatment of chronic knee pain from osteoarthritis.
- We describe a standardized protocol for selecting patients for cooled radiofrequency ablation of the genicular nerves.
- In addition the outcomes of four sequential patients with chronic knee pain from osteoarthritis who underwent the procedure with our protocol are presented.

METHODS

- The threshold for selection based on diagnostic genicular nerve block was >80% pain reduction for the concordant duration of the anesthetic.
- Subsequently C-RFA including the superior lateral, superior medial and inferior medial genicular nerves was used.

OUTCOMES

- The patient selection and the C-RFA protocol resulted in > 90% pain reduction, improved function and surgical sparing at 3-6 months in all four cases.
- Opioid and all analgesic medication use decreased or remained unchanged in all four cases.
- No adverse effects were reported.

DISCUSSION

- These positive pain and functional results are similar to those found in previous studies of traditional RFA.
- No randomized controlled trials have yet been published investigating C-RFA of the genicular nerves and no comparative study of C-RFA and traditional RFA has been published.
- Clinical outcomes associated with C-RFA vs. traditional RFA for denervation of the SIJ appear to favor C-RFA, though this literature is emerging.
- In the published literature to date, as well as the present report, the superior medial, superior lateral and inferior medial genicular nerves were ablated, but further study is needed regarding the optimal number of genicular branches to be ablated in order to achieve a successful outcome.

CONCLUSION

- We report 4 cases of favorable pain relief and functional outcomes by self-report after C-RFA of the genicular nerves for chronic symptomatic knee OA.
- Further research is needed to determine if the screening and procedure protocol reported here is optimal, if this technique confers an advantage over traditional RFA, and whether fluoroscopy compared to ultrasound is the ideal modality for image-guidance.

REFERENCES