INTRODUCTION

Currently, there are several different interventional therapies for lumbar discogenic pain. These include intradiscal injections, radiofrequency annuloplasty (RFA), intradiscal electrothermal therapy (IDET™) and disc decompression. Disc biacuplasty (DB) using the TransDiscal™ System (Baylis Medical, Montreal) utilizes bipolar heating by placing two straight probes in the postero-lateral region of the annulus and delivering radiofrequency energy between them. Active cooling of the probes during RF delivery results in large, homogenous, and reproducible lesions across the annulus. This is achieved by heating the target area to a temperature of 55°C +/- 5°C. By ablating nociceptive pain fibres, modulating collagen, and stimulating the healing process there should be a decrease in axial discogenic pain resulting from the annular tear.

METHODS

All patients had predominantly axial low back pain of over 6 months duration, which failed to improve after conservative therapies. Facet joint injections, sacroiliac joint injections and RF rhizotomies had also failed to give prolonged improvement. All had MRI degenerative disc pathology at one or more levels, and low pressure induced positive concordant pain of intensity >6/10 during provocative lumbar discography at 1 or 2 disc levels with negative control discs at one and preferably two adjacent levels. Disc biacuplasty was performed in the standard prone position after identifying the landmarks using fluoroscopy. In the case of multilevel axial discogenic pain disc biacuplasty was performed at those levels.

RESULTS

These cases are reported as first personal experience using disc biacuplasty for axial discogenic pain in an institution where other intradiscal therapies are widely used. Range of pain relief varied from 0% to 80% at 2 weeks (n=8) and 0% to 90% at 3 months (n=8). Overall patient satisfaction was good and no patient reported immediate post procedure flare up of pain often seen with other therapies, with no patients needing additional analgesia.

DISCUSSION

Disc biacuplasty is a safe and effective procedure for the treatment of axial discogenic low back pain. With good patient acceptability and a relatively straightforward placement it is easier to perform than previous intradiscal procedures. Care should be taken to avoid trauma to nerve roots or infection associated with all intradiscal procedures. While no adverse incidents were seen, further controlled studies are necessary to completely evaluate safety and efficacy of this procedure.

CONCLUSION

This small case series of disc biacuplasty suggests it is a safe and effective therapy for treating patients with axial discogenic low back pain.