RADIOFREQUENCY NEUROTOMY FOR SACROILIAC JOINT PAIN; TWELVE MONTH OUTCOMES AND COMPARISON BETWEEN TWO TECHNIQUES

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Method: Retrospective chart review n=182.

Background: The Sacroiliac Joint (SIJ) is an acknowledged pain generator; various descriptions of variable joint innervation inform Radiofrequency ablation (RFA) practices. Many practitioners target S1-S3 lateral branches (LBs) with a “strip lesion” RFA technique while others include the L4 medial branch (MB) and L5 dorsal ramus (DR) in their tactic (1).

Objectives: Ascertain whether RFA of the SIJ results in a durable (twelve month) benefit and determine if including RFA of the L4 MB and L5 DR improved outcomes.

Methods: One hundred and eighty-two (n=182) patient charts were reviewed. 103 female 79 male average age 52 years. All patients presented with > three months pain, >5/10 on pain VAS, index pain below the belt-line and positive Fortin’s finger test. Fluoroscopically guided contrast-confirmed intra-articular injection with > 70% relief of index pain and confirmatory multi-site multi-depth lateral branch blocks with > 70% relief of index pain was required for RFA. Ninety-three (93) patients underwent bipolar ablation of S1-S3 lateral branches using a multi-tined expandable electrode (Nimbus®) based on the technique described by Wright et al (2). The author modified his technique and subsequently eighty-nine (89) patients underwent monopolar RFA of the L4 MB and L5 DR in addition to S1-S3 LB bipolar RFA. Patient’s pain VAS and global PDQQ-S (3) scores were obtained at baseline, one, six, and twelve months. Only twelve-month data was used to assess ‘durable’ benefit.

Results: Global baseline pain VAS was 7.2 +/- 1.1 and global PDQQ-S score was 48.4 +/- 6.8. At twelve months pain VAS decreased to 2.8 +/- 1.2 and PDQQ-S to 20 +/- 8.9. (P values <0.001). Subset analysis of the S1-S3 RFA only group showed baseline pain VAS of 7.2 +/- 1.0 and global PDQQ-S of 48.7 +/- 5.8. At twelve months VAS decreased to 3.3 +/- 1.3 and global PDQQ-S of 21.2 +/- 8.7. The group including RFA of L4 MB and L5 DR had baseline pain VAS of 7.1 +/- 1.2 and PDQQ-S of 48.1 +/- 9.0 At twelve months pain decreased to VAS of 2.4 +/- 1 and global PDQQ-S of 18.5 +/- 7.8.

Conclusions: RFA of the S1-S3 sacral lateral branches in a well selected population using an anatomically accurate bipolar strip lesion technique producing the necessary and sufficient lesion topography provides highly significant pain reduction and improvement in PDQQ-S at twelve months follow up. Including L4 MB and L5 DR may provide additional benefit and further study is encouraged.

Technique example: post lumbar fusion; AP and sacral contralateral oblique

Post-procedure MRI validation of lesion size and shape (2)