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"Retrospective Review of Efficacy of Repeated Radiofrequency Ablation for Cervical and Lumbosacral Facet Pain"

Objectives: Low back pain and neck pain are two very common sources of pain that, without proper treatment, can significantly reduce quality of life and interfere with daily activities.[1] It is estimated that up to 84 percent of adults have low back pain at some time in their lives, with 25% of adults reporting low back pain in the last three months.[2-4] Additionally, neck pain can often share similar pathology as low back pain, with resultant increasing demand for treatment options. Some studies suggest estimated 1 year incidence of neck pain is between 10.4% and 21.3%,[5] with an annual prevalence rate exceeding 30% among adults in the United States.[6]

One of the most common causes of axial neck and back pain is facet arthropathy. If more conservative treatments fail, then there is established data that radiofrequency nerve ablation (RFA) of the medial branch of the posterior rami nerve is the treatment of choice for both cervical and lumbosacral facet-related pain.[7-10] Prior to RFA, a diagnostic medial branch block (MBB) is performed for initial trial in pain relief,[11-13] with ≥50% relief of target pain considered clinically significant and indicative of facet-related pain.[14] Benefits of RFA dissipate between 6 to 12 months.[15] With data being limited on repeat RFA efficacy after years of initial, we analyzed pain reduction and duration of relief of repeat RFAs in a group of patients with cervical and lumbosacral facet-related pain.

Methods: We used an electronic medical record database to identify all patients under the care of one group of physicians in the pain section of the Veterans Affairs (VA) medical center in New Orleans who received their last repeat RFA between 2018 to 2021. We reviewed records to register patients that had an initial successful RFA, but also who had at least one repeat RFA in the same area. Patients were asked about duration of relief, percent pain reduction, and if repeat procedures provided similar relief. A patient's RFA was considered a "success" if there was ≥50 percent relief of pain, with less than 50 percent relief considered as "failures". Patients with continuing relief were not used for duration data.

Results: In the patient population that responded, there were 170 repeat RFAs performed with 128 successes and 42 failures. A Wilcoxon Signed Rank Test showed a significant difference between the duration of pain relief in months between the initial RFA (M=10.11) and the average repeat RFA (M=7.63), (W= 47, p=0.03). There was a wide distribution of the duration of relief. In twenty-seven patients, RFA provided 1-6 months of relief, in twenty-three 7-12 months, in five 13-18 months, and in two patients over 18 months.

Conclusion: Our data demonstrates that while most patients benefit from repeat RFAs, the overall success rate and duration of relief was less when compared to initial successful RFA in the cervical, lumbar, or sacroiliac joint regions.

References:

1. Sinnott, Patricia L et al. “Trends in diagnosis of painful neck and back conditions, 2002 to 2011.” Medicine vol. 96,20 (2017): e6691. doi:10.1097/MD.0000000000006691

2. Deyo, R A, and Y J Tsui-Wu. “Descriptive epidemiology of low-back pain and its related medical care in the United States.” Spine vol. 12,3 (1987): 264-8. doi:10.1097/00007632-198704000-00013

3. Cassidy, J D et al. “The Saskatchewan health and back pain survey. The prevalence of low back pain and related disability in Saskatchewan adults.” Spine vol. 23,17 (1998): 1860-6; discussion 1867. doi:10.1097/00007632-199809010-00012

4. Deyo RA, Mirza SK, Martin BI. Back Pain Prevalence and Visit Rates: Estimates from U.S. National Surveys, 2002. Spine (Phila Pa 1976). 2006 Nov 1;31(23):2724-7.

5. Hoy, D G et al. “The epidemiology of neck pain.” Best practice & research. Clinical rheumatology vol. 24,6 (2010): 783-92. doi:10.1016/j.berh.2011.01.019

6. Cohen, Steven P. “Epidemiology, diagnosis, and treatment of neck pain.” Mayo Clinic proceedings vol. 90,2 (2015): 284-99. doi:10.1016/j.mayocp.2014.09.008

7. Lord SM, Barnsley L, Wallis BJ, et al. Percutaneous radiofrequency neurotomy for chronic cervical zygapophysial-joint pain. N Engl J Med. 1996;335:1721–1726.

8. McDonald G, Lord SM, Bogduk N. Long-term follow-up of patients treated with cervical radiofrequency neurotomy for chronic neck pain. Neurosurgery. 1999;45:61–68.

9. Barnsley L. Percutaneous radiofrequency neurotomy for chronic neck pain: outcomes in a series of consecutive patients. Pain Med. 2005;6:282–286.

10. Sapir DA, Gorup JM. Radiofrequency medial branch neurotomy in litigant and nonlitigant patients with cervical whiplash. Spine. 2001;26: E268–E273.

11. Barnsley L, Bogduk N. Medial branch blocks are specific for the diagnosis of cervical zygapophyseal joint pain. Reg Anesth. 1993; 18:343–350.

12. Barnsley L, Lord S, Wallis B, et al. Comparative local anaesthetic blocks in the diagnosis of cervical zygapophyseal joints pain. Pain. 1993;55:99–106.

13. Barnsley L, Lord S, Wallis B, et al. False positive rates of cervical zygapophysial joint blocks. Clin J Pain. 1993;9:124–130

14. Husted, Daniel S., et al. “Effectiveness of Repeated Radiofrequency Neurotomy for Cervical Facet Joint Pain.” Journal of Spinal Disorders & Techniques, vol. 21, no. 6, 2008, pp. 406–408., doi:10.1097/bsd.0b013e318158971f.

15. McCormick, Zachary L et al. “Long-Term Function, Pain and Medication Use Outcomes of Radiofrequency Ablation for Lumbar Facet Syndrome.” International journal of anesthetics and anesthesiology vol. 2,2 (2015): 028. doi:10.23937/2377-4630/2/2/1028