NSAID Use Associated with Decreased Narcotic Discontinuation after Spinal Cord Stimulator Implant: A Retrospective Review

Evans, C.[1], Harrison, H.[2], Hartman, Z.[2], Cagril, J.[2], Pahl D.[2]
chlevans@utmb.edu

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ABSTRACT INTRODUCTION: Non-steroidal anti-inflammatory drugs (NSAIDs) are typical first-line therapies for back pain. Unfortunately, a patient's back pain may progress up the analgesic ladder to the point where procedural interventions, namely spinal cord stimulators (SCS), are required. In this retrospective review, we investigate NSAID use in patients who have had SCS placement and its relationship to other pharmacologic methods of pain relief along with its effect on the overall success of SCS implantation.

METHODS: An IRB approved retrospective review was conducted on patient's whose names were provided from companies including Boston Scientific, Medtronic, Abbot and Nevro between 2009-2023 for symptomatic back or leg pain. Electronic medical record review of demographic factors, comorbidities, past medical history, and medication use history along with visual analog scale (VAS) scores was conducted. Phone survey calls were made to each patient in which they were asked whether they believed the SCS implant reduced their pain. A univariate analysis was conducted comparing the rates of patient outcome metrics comparing preoperative versus no preoperative NSAID use.

RESULTS SECTION: 70 individuals responded to the phone survey by which self-reported success of SCS implantation was reported. There were no differences between groups with respect to any comorbidity, nor was there a difference in preoperative versus postoperative NSAID use based on tobacco or alcohol use. There was also no difference in self-reported success of SCS between the NSAID and no NSAID groups. There was a clinically significant difference in the rate of narcotic discontinuation between those who used preoperative versus postoperative NSAIDs, with those who took preoperative NSAIDs having a significantly lower rate of narcotic discontinuation ($p < 0.001$).

DISCUSSION: Those who took preoperative NSAIDs had a higher rate of continuing narcotic use postoperatively compared to those who did not use preoperative NSAIDs ($p<0.001$). Given that one of the goals of SCS implantation should be to reduce the patient's narcotic use, this study is significant in that it indicates that preoperative and postoperative NSAID use may play a significant role in influencing whether a patient decreases narcotic use after SCS implantation.

SIGNIFICANCE/CLINICAL RELEVANCE: This study suggests that a patient is using NSAIDs and narcotics concurrently prior to SCS implantation will have a decreased likelihood of lowering their narcotic dose after SCS implantation compared to a patient who is not taking NSAIDs in conjunction with their narcotic use.