Treatment of Pain Secondary to Glenohumeral Arthritis with Dorsal Column Stimulation

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Disclosures

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Introduction

• Dorsal column stimulation (DCS) is a well-established technique used to manage chronic neuropathic pain
• DCS is theorized to work by interfering with the conduction of nociceptive impulses through the spinal cord
• Here, we use a case report format to describe the novel use of DCS to treat a patient with mechanical pain due to advanced glenohumeral arthritis
Methods

• The patient, an 84-year-old female, presented to Grant Medical Center with glenohumeral arthritis of three years’ duration

• Previous therapies (opioid analgesics, NSAIDs, cortisone therapy, etc.) had failed to successfully alleviate the patient’s pain

• The patient’s pain was severe enough to arrest her movement; she was incapable of abducting her arm more than 15 degrees, and as a result her shoulder was becoming ‘frozen’ in place, dramatically reducing her function
Methods

• The patient underwent implantation of a **cervical spinal cord stimulator**: a dual-lead, 16-electrode Medtronic stimulator

• Leads were positioned such that electrodes ran from the inferior C3 vertebra to the superior T1 vertebra, covering the C4-C8 nerve roots on the right side

• The majority of the sensory nerves innervating the arm and shoulder enter the spinal cord between the C5 and C7 nerve roots
Results
Results

• At the patient’s six-week and three-month follow-up appointments, she reported >90% reduction of her pain and an elimination of her use of opioid analgesics.

• In addition, a physical examination revealed that the patient was able to abduct her arm more than 90 degrees.

• The patient’s ability to function was enhanced, and much of the utility of her arm was restored.
Discussion

- In this case, DCS was used to treat mechanical pain, rather than the neuropathic pain for which it is traditionally utilized.
- This shows that DCS has the potential to be used regularly for arthritis pain that is not responsive to typical arthritis therapies.
- DCS use for pain management can reduce or avoid the risks associated with prescription of opioids for chronic pain patients.
Summary and Conclusions

• DCS should be considered as an effective alternative to long-term opioid analgesic use when treating chronic arthritis pain
• DCS helped the patient regain the use of her arm while avoiding arthroplasty or arthroscopy