Scrambler Therapy for Refractory Chemotherapy Induced Peripheral Neuropathy: A Case Report

Olivero, Yisia, M.D., Murphy, Tyler, M.D.
Division of Palliative Medicine, Mayo Clinic Arizona

BACKGROUND

Scrambler therapy is a novel form of electroanalgesia and neuromodulation that has been investigated for use in the treatment of neuropathic pain of various etiologies, including Chemotherapy Induced Peripheral Neuropathy (CIPN) which is notoriously difficult to treat using standard pharmacologic interventions. It is a non-invasive treatment that uses electrical stimulation to change the perspective of the brain, potentially inducing a state of non-pain. Scrambler therapy uses a proprietary algorithm to deliver constantly varying electrical signals through cutaneous adhesive electrodes. These signals are intended to "scramble" noxious pain signals into nonpainful sensations. Its goal is to reduce central sensitization.

CASE DESCRIPTION

Patient is an 84 -year-old female with past medical history significant for uterine endometrial cancer. The patient was scheduled for an outpatient visit with the Palliative Team. The patient's Chemotherapy Induced Peripheral Neuropathy (CIPN) was first noted 1.5 years prior to her appointment with the team. At this point, she had received disease directed therapy with carboplatin, and paclitaxel. Her CIPN had been refractory to other therapies, including Gabapentin (discontinued due to side effects of headaches), Pregabalin (no benefit) and compounded ketamine topical cream (no benefit). She had also used topical Diclofenac sodium 1% gel which provided 5-10 min of relief. She referred "sharp, stabbing and burning" pain in her bilateral lower extremities (right greater than left). She reported the pain was worse in the evening and with prolonged walking. Upon evaluation by physical exam, she had left lower extremity nonpitting edema. Palliative team was on board for initiation of Scrambler Therapy.

RESULTS

FIGURE 1

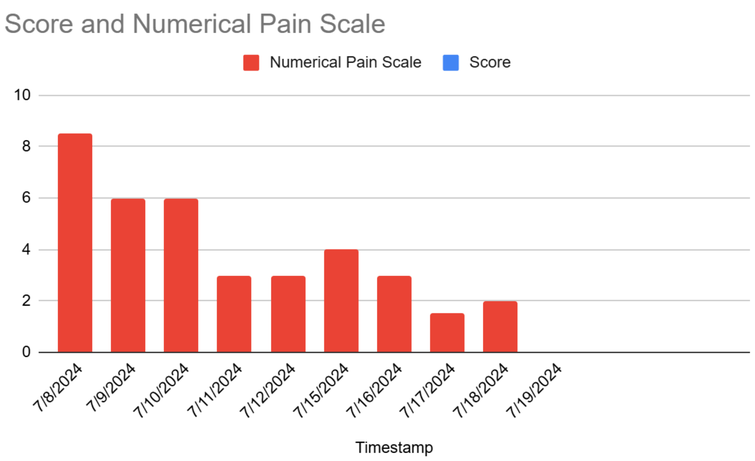
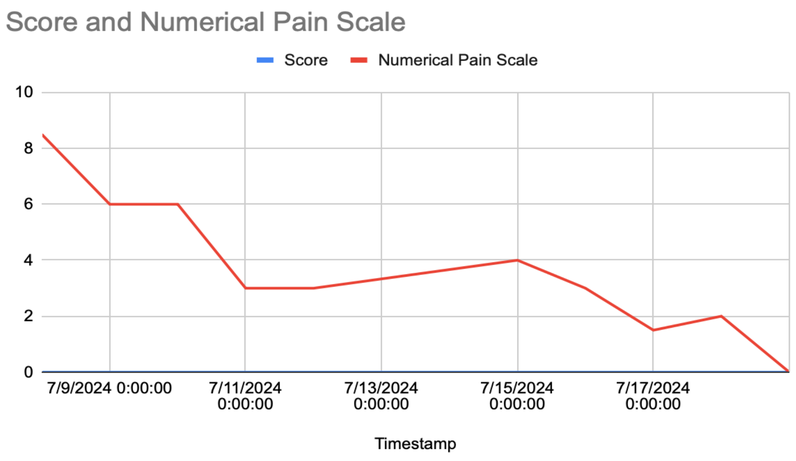


FIGURE 2



The patient's pain was rated on a numerical scale from 0-10; with the number 0 representing no pain and the number 10 representing the highest possible pain.

On the initial appointment with the patient, prior to initiating Scrambler Therapy, the patient reported her pain as an 8.5/10.

On day 2 and day 3 of Scrambler Therapy, the patient reported her pain as a 6/10. Her pain continued to improve on day 4 and 5 of therapy, with a reported pain level of 3/10.

She then had the weekend off of therapy, asper treatment protocol. When she presented back for day 6 of Scrambler Therapy, her new baseline pain level was rated 4/10.

On Day 7 of Scrambler Therapy, the patient reported that he pain level had reduced back down to 3/10. This further improved to- a pain level of 1.5/10 on Day 8 of therapy. On day 9 of Scrambler Therapy, the patient reported pain at a level of 2/10, and by Day 10 of therapy the patient was reporting 0/10 pain.

By the 5th therapy, the pain was rated 3/10 in scale, showing a 64% decrease in pain from the initial visit.

By the 10th treatment, pain was rated 0/10, showing a 100% reduction of primary symptoms.

No pain was reported by the patient on follow-up visit, 4 days after treatment completion.

DISCUSSION

Scrambler therapy has shown promising results in treating chemotherapy induced peripheral neuropathy. This case report highlights a significant reduction in pain level, consequently improving quality of life. These findings are consistent with previous studies that might suggest that scrambler therapy is able to modulate pain pathways through nerve stimulation.

This non-invasive procedure offers patients a valuable alternative to traditional pain management strategies. This treatment can help reduce reliance on opioids and other pain medications, which are often associated with undesirable side effects and the risk of dependency.

REFERENCES

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