

Letter to the Editor

Pulsed Radiofrequency for Metastatic Pain Treatment

TO THE EDITOR:

In recent years the use of pulsed radiofrequency (PRF) to treat chronic pain conditions has generated intense interest in the pain community. PRF is a minimally invasive, target-selective technique that has reported anecdotal benefit at reducing post-amputation stump pain (1), chronic radicular/ganglion pain (2), neuropathic pain (3), and arthropathic pain (4). There is no published data on using PRF for metastatic pain treatment. We reported on 3 patients that suffered from uncontrolled vertebral/paravertebral metastatic pain and were successfully treated by fluoroscopically guided selective ganglion root PRF (PMG-230 Baylis Medical com. Inc. Canada).

Case 1: A 61-year-old patient with end stage metastatic hypernephroma had severe pain, secondary to metastasis in the T7 vertebral body and unsuccessfully treated with 1000 mg morphine/day. He underwent fluoroscopically guided selective ganglion root PRF therapy in T6-7-8 levels bilaterally (120 sec for each one from the 6 points). Significant pain relief was recognized 24 hours after the procedure. During the 6-month follow-up period he required only fentanyl 50 mcg/h patch for pain control (VAS dropped from 10 to 1).

Case 2: A 32-year-old patient with T12 vertebral body metastasis (breast carcinoma) suffered from severe pain and was unsuccessfully treated with opioids. A fluoroscopically guided selective ganglion root block with Bupivacaine and Depomedrole improved her symptoms for just 12 hours and PRF treatment was performed with 120 sec exposure for each of the the 4 (T11-12 bilaterally) points involved. This patient has had a 2-month pain free period. (VAS decreased from 8 to 2).

Case 3: A 63-year-old patient suffered from severe uncontrollable pain secondary to paravertebral T12-L5 metastatic infiltrate (breast carcinoma). She was

paraplegic with bilateral leg neuropathic pain (VAS 8). PRF treatment was performed with 120 sec exposure for each one from the four (L4-5 and L5-S1 bilaterally) points. During 3-month follow-up period her VAS became 2 – 3.

The mode of PRF action is based on global reduction of evoked synaptic activity, inhibition of excitatory C-fiber responses by repetitive, burst-like stimulation of A-delta fibers and minor structural changes in the nerve tissue selected (5). The advantages of PRF compared to regular (continuous) RF is the absence of any mitochondrial degeneration or structural pathology in cell or nuclear membranes in response to the PRF treatment (6) with an option to repeat this procedure.

Based on our cases we consider that PRF may offer new opportunities for metastatic pain treatment and encourage future studies.

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