Successful use pulsed radiofrequency L4-L5 dorsal root ganglions in patient with chronic stump pain

Genov P., Smirnova O., Timerbaev V., Vyatkin A.

N.V. Sklifosovsky Scientific Research Institute for Emergency Medicine of Health Department of Moscow, Dept of Anaesthesiology, Moscow, Russian Federation.

Background: About 50-75% of patients suffer from stump pain resistant to pharmaceutical agents. Pulsed radiofrequency (PRF) has gained popularity in recent years for the treatment of neuropathic pain and may be considered as promising method to treat stump pain patients.

Case report: A 62-year-old man was consulted in our clinic 37 years after hip disarticulation due to a war accident. The left-side stump constant, sharp, burning and shock-like pain appeared immediately and was not resolved after revising surgery in 35 years. Despite the multimodal analgesic and soporific regimen included ketoprofen (200 mg per day (PD)), carbamazepine (400 mg PD), amitryptiline (25 mg PD), tramadol (300 mg PD) bromdihydrochlorphenylbenzodiazepine (2 mg PD) and zopiclone (7,5 mg PD), the patient's max/min/average pain scores (VAS) were about 10/2/7 out of 10 correspondingly. The pain affects his sleep (10/10), mood (10/10), communication (9/10), day-work (8/10), walking (10/10). His stump MRI revealed severe fibrosis but not any neuromas. Fluoroscopy guided PRF (42°, 2Hz; 20 ms; 150-200 Ω, 5 min) of the left L4 and L5 dorsal root ganglions (DRG) was performed. During the following 3 months the patient reported 70% pain relief and decreasing tramadol dose up to 100 mg PD but thereafter his pain was gradually increased up to 8/3/6 VAS (max/min/average correspondingly) by 5th month after PRF procedure. Patient increased tramadol daily dose up to 300 mg PD. Taking into consideration good clinical result after the initial PRF we performed this procedure again. By now (in 2 months after repeated PRF) the patient has reported pain relief up to 3,5/0/2,5 VAS (65/100/64 and 56/100/58% max/min/average VAS reduction in comparison with initial and before the 2nd procedure condition correspondingly). Patient's tramadol dose has been decreased up to 100 mg per 10 days. He has noticed sleep (3/10), mood (4/10), communication (0/10), day-work (5/10) and walking (0/10) improvement.

Discussion: By now PRF being method based on neuromodulation in DRG has not been included into chronic stump and phantom pain treatment guidelines due to lack of evidence-based data. Solitary case reports only in this field were published before. Our current clinical observation has confirmed the great potency of the method.

Learning points: We suggest the prospective randomized controlled trials need validating the use of PRF for chronic stump and phantom pain treatment.

Figure 1.

Fluoroscopy guided pulsed radiofrequency procedure

A

B

Figure 2.

Left-sided L5 nervegram (A) and L4 nervegram (B) in a A/P view.