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Chronic Low Back Pain Underwent Dorsal Root Ganglia-Pulsed Radiofrequency Followed by Exercise and Physical Activity at National Brain Center Hospital Jakarta: A 2023 Retrospective Study.

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BACKGROUND AND AIMS

Chronic low back pain (CLBP) has been unfinished problem in our population. At National Brain Centre (NBC) Hospital Jakarta, the entity of CLBP which mostly has radiculopathy symptoms contribute for at least 15% of patients visit at the pain clinic1. Globally, CLBP has been estimated as much as 8.1% for all-cause of years with disability.[2] As one of the modality of interventional pain management (IPM), pulsed radiofrequency on dorsal root ganglia (PRF-DRG) has been considered to be one of neuromodulation technique for CLBP which believed scramble the chronification process.[3] Exercise and physical activity are also known as non pharmacological approach effective for many kind of chronic pain.[4] Combination of these two modalities might be beneficial for CLBP patients with radicular symptoms.

METHODS

The early 2023 NBC protocol has been standardized to implement that the patients with CLBP underwent PRF-DRG will go through exercise 24 hours-immediately after the procedure. The PRF-DRG procedure was done using Cosman G4 electrode channel generator and cannulas with C-Arm guidance ipsilaterally to the CLBP radicular pain side and matched with previous magnetic resonance imaging (MRI) and electroneuromyography (ENMG) data for site of irritation and/or compression. After neuroanatomical confirmation using sensoric and motoric stimulation, we performed 8-minutes of 45 volt-42°C pulsed radiofrequency of DRG site followed by fixed mixture of non-particulate steroid and local anestetic (5 mg of dexamethason combined with 2ml of 2% lidocaine hcl) to prevent neuritis. The after-procedure exercise protocol was done using 10 minutes of combined self-assisted stretching method consist of McKenzie's and William's flexion exercise and pelvic mobilization exercise. Pre-procedural and post-exercise measurement of visual analogue scale (VAS) and Oswestry disability index (ODI) has been meticulously noted from the subject.

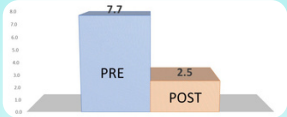
RESULTS

As much as 28 subject with complete assessment has been reviewed retrospectively from the NBC hospital electronic health record (EHR) system. Using paired-t test we found statistically significant differences on VAS pre- (7.68; SD 1.806) vs VAS post- (2.54; SD 1.374), p< 0.01; ODI pre- (52.82%; SD 14.62) and ODI post (32.96% ; SD 18.70), p< 0.01 before procedure and after exercise measurement. Both of the tools considered representative for pain intensity decrement and functional improvement, respectively.

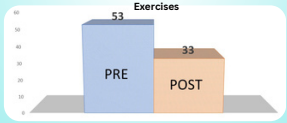
William flexion exercise

McKenzie method

Comparison of Visual Analog Scale (VAS) Pre and Post Procedure+Exercises



Comparison of Oswestry Disability Index (ODI) % Pre and Post Procedure + Exercises



C-Arm guided Pulsed Radiofrequency (PRF) of Dorsal Root Ganglia (DRG)

CONCLUSIONS

A multimodal approach of PRF-DRG procedure followed immediately by exercise and physical activity may benefit the patients by reducing pain intensity and increase functionality of patients with CLBP. Further study with more subject recruitment warranted to elaborate this findings

REFERENCE

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