A New Technique for the Treatment of Lumbar Facet Joint Syndrome Using Intra-articular Injection with Autologous Platelet Rich Plasma

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Abstract

Background and objectives: Lumbar facet joint syndrome is currently suggested to be a main source of axial low back pain, and a large portion of axial low back pain is caused by disorders in lumbar facet joints. Intra-articular injection is one of the most common treatment methods in the early clinical application. Therefore, we attempt to seek a new injectable material, autologous platelet rich plasma (PRP), to treat lumbar facet syndrome, as well as to assess its therapeutic effectiveness and safety.

Study design: A prospective clinic evaluation.

Setting: The outpatient clinic of a single academic medical center.

Methods: Total 19 patients with lumbar facet joint syndrome (8 men, 11 women; mean ages: 52.53 ± 6.79 years, range: 38 - 62 years) were enrolled to receive lumbar facet joint injection with autologous PRP under x-ray fluoroscopic control. Patients were followed up immediately, at one week, one month, 2 months, and 3 months following treatment, and the elements of this analysis included low back pain visual analogue scale (VAS) at rest and during flexion, Roland-Morris Disability Questionnaire (RMQ), Oswestry Disability Index (ODI), and modified MacNab criteria for the pain relief.

Results: All the 19 patients completed the intra-articular injections with autologous PRP successfully. At one week after treatment, low back pain reduced significantly compared with prior to treatment both at rest and during flexion. The outcomes were assessed as "good" or "excellent" for 9 patients (47.37%) immediately after treatment, 14 patients (73.68%) at one week, 15 patients (78.95%) at one month, 15 patients (78.95%) at 2

months, and 15 patients (78.95%) at 3 months. Statistically significant differences were observed based on RMQ and a more than 10% improvement in lumbar functional capacity was observed based on ODI between pre-treatment and post-treatment. In addition, there were no severe relevant complications during the whole process of injection and follow-up period.

Limitations: A control group and the curative effect observations with longer follow-up may lead to a more convincing result for our study.

Conclusions: In the short-term period of 3 months, the new technique of lumbar facet joint injection with autologous PRP is effective and safe for patients with lumbar facet joint syndrome. Key words: Low back pain, lumbar facet joint syndrome, autologous platelet rich plasma, intra-articular injection.