Use of Platelet Rich Plasma compared to Corticosteroids in Transforaminal Epidural Injections for Low Back Pain: A Literature Review

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Platelet rich plasma (PRP) and other orthobiologics have been used to treat common musculoskeletal pathology since the 1990s. PRP includes growth factors that can help decrease inflammation. Its indications and use has spread from athletes to the everyday weekend warrior, from the knee to other joints. Low back pain (LBP) is not exempt from the exploratory use of PRP. New research has shown inspiring use of PRP in treating LBP. Steroids have been the main injectable medicine utilized to reduce inflammation in patients with axial pain. Corticosteroids are commonly injected into the transforaminal space to reduce inflammation in disc herniation or nerve impingement. Corticosteroids work by inhibiting phosholipase A2, preventing the production of arachidonic acid, which is necessary to create prostanglandins, a key contributor in creating inflammation and pain.

A 2021 study from China introduced the idea by evaluating the safety and efficacy of using PRP in comparison to corticosteroids in ultrasound-guided transforaminal epidural injections for radicular pain due to lumbar disc herniations. In a randomized controlled study, they selected 124 patients, 61 got PRP, 63 got betamethasone. They followed multiple pain scales and functional outcomes before and after the procedure with multiple follow up intervals. Results showed similar outcomes between the two groups suggesting PRP is safe and efficacious when used as an injectable for radicular pain due to lumbar disc herniations[1]. Another study focused on PRP compared to triamcinolone in transforaminal epidural injections for patients with single-level lumbar disc herniation. 15 patients were placed in each group and measured pain scores and functional outcomes. PRP group showed significant reduction in pain scores compared to triamcinolone in the weeks after the injection[2].

PRP is a well studied orthobiologic that has been used to treat many musculoskeletal conditions the past few decades. New research in recent years have showed PRP to be safe and efficacious in treating low back pain compared to the current recommended treatment, such as corticosteroids. PRP is currently FDA compliant based on section 361 of the FDA regulations and costs roughly $750 per injection on average[3]

References:

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