

Efficacy of Epidural Injections with Autologous Conditioned Serum (ACS) for Lumbar Radiculopathy

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Background: A new biologic therapy, based on the local administration of Autologous Conditioned Serum (ACS), is used for back pain treatment. ACS is generated by incubating venous blood with medical grade glass beads. Peripheral leukocytes produce elevated amounts of endogenous anti-inflammatory cytokines such as interleukin-1 receptor antagonist (IL-1Ra) and growth factors including IGF-1, PDGF and TGF- β that are recovered in the serum.

Methods: To evaluate the efficacy of ACS for the treatment of lumbar radicular compression a prospective, double-blind, reference-controlled trial was conducted. 84 patients were treated by epidural perineural injections with either ACS, 5 mg or 10 mg triamcinolone. Treatment was applied once per week for three consecutive weeks and followed for six months. VAS of low back pain and Oswestry Disability Index (ODI) were used as outcome parameters. Data were submitted to a repeated measurements analysis of variance with effects on treatment group and time.

Results: All studied patients with lumbar back pain showed a clinically remarkable and significant reduction in pain and disability. From week 12 to the final evaluation injections with ACS showed a consistent pattern of superiority over both triamcinolone groups with regard to the VAS, but statistical significance was observed only at week 22 in direct comparison to the 5mg group. However, there was no statistically significant difference between the two triamcinolone dosages during the 6 months of the study.

Conclusion: ACS is an encouraging treatment option for patients with unilateral lumbar radicular compression. The decrease in pain was pronounced, clinically remarkable and superior to steroid injection.