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Efficacy of epidural perineural injections with autologous conditioned serum for lumbar radicular compression: an investigator-initiated, prospective, double-blind, reference-controlled study.

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Erratum in

Spine. 2007 Nov 15;32(24):table of contents. Dosage error in article text.

Abstract

STUDY DESIGN: Prospective, double-blind, reference-controlled, investigator-initiated, single center.

OBJECTIVE: To evaluate the efficacy of Autologous Conditioned Serum (ACS; **Orthokine**) for the treatment of lumbar radicular compression in comparison to triamcinolone.

SUMMARY OF BACKGROUND DATA: Evidence from animal studies indicates that cytokines such as interleukin-1 play a decisive role in the pathophysiology of lumbar radiculopathy. ACS is enriched in the interleukin-1 receptor antagonist and other anti-inflammatory cytokines.

METHODS: Thirty-two patients were treated by epidural perineural injections with ACS; 27 patients were treated with 5 mg triamcinolone and 25 patients with 10 mg triamcinolone. Treatment was applied once per week for 3 consecutive weeks and followed for 6 months. The Visual Analogue Scale (VAS) of low back pain was the primary outcome measure. The Oswestry Disability Index (ODI) was the secondary endpoint of the study. All statistical analyses were performed in an exploratory manner using SAS for Windows, version 8.2, on a personal computer. Descriptive statistics were calculated for the VAS and ODI by treatment group and time point. The data were submitted to a repeated-measurements analysis of variance with effects on treatment group, time, and treatment group-by-time interaction.

RESULTS: Patients with lumbar back pain who were treated with ACS or the 2 triamcinolone concentrations showed a clinically remarkable and statistically significant reduction in pain and disability, as measured by patient administered outcome measurements. From Week 12 to the final evaluation at Week 22, injections with ACS showed a consistent pattern of superiority over both triamcinolone groups with regard to the VAS score for pain, but statistical significance was observed only at Week 22 in direct comparison to the triamcinolone 5 group. However, there was no statistically significant difference between the 2 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

potentially superior to steroid injection.

Comment in

Re: Becker C, Heidersdorf S, Drewlo S, et al. Efficacy of epidural perineural injections with autologous conditioned serum for lumbar radicular compression. *Spine* 2007;32:1803-8. [*Spine* (Phila Pa 1976). 2008]

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