Condoliase

- Clinical and Economic Outcomes of Intradiscal Injection of Condoliase for a Treatment of Lumbar Disc Herniation with Severe Low Back Pain: A Multicenter Study
- Age-specific Comparative Clinical Outcomes of Chemonucleolysis with Condoliase versus Microendoscopic Discectomy in Patients with Lumbar Disc Herniation
- Condoliase Injection Therapy for Lumbar Disc Herniation With Incomplete Motor Deficits in a Professional Footballer: A Case Report
- Pretreatment Prognostic Factors for Intradiscal Condoliase Injection in Patients with Lumbar Disc Herniation: Insights from Clinical and MRI-Based Quantitative Analysis
- Impact of Condoliase on Health-related Quality of Life in Participants With Radicular Leg Pain Associated With Lumbar Disk Herniation: Results From a United States Phase 3 Clinical Trial
- Immediate effectiveness of condoliase chemonucleolysis for lumbar disc herniation: a comparative study between patients with difficulty walking because of severe leg pain and those who can walk
- Early therapeutic efficacy of condoliase chemonucleolysis for lumbar disc herniation
- Efficacy of Chemonucleolysis with Condoliase in Patients Aged under 20 Years

Condoliase is a medical treatment used to relieve pain associated with lumbar spinal stenosis. It involves the injection of a protein-dissolving enzyme called chondroitinase ABC into the spinal canal, which breaks down the proteoglycans that contribute to the narrowing of the canal. This can create more space for the spinal nerves and reduce pain and other symptoms.

The procedure is typically performed under local anesthesia. Patients may experience some discomfort or pain at the injection site, but these side effects are usually temporary and can be managed with pain medication.

While condoliase has shown promise as a treatment for lumbar spinal stenosis, it is still considered an experimental treatment in many countries and is not widely available.

The injection of condoliase together with contrast media is prohibited; because there is no data on whether contrast media have any effect on condoliase activity. This study aimed to elucidate the effects of contrast media on condoliase activity.

Methods: Condoliase with chondroitin sulfate (CS) and without CS were mixed with various contrast media (nonionic [iohexol or iotrolan]; ionic [amidotrizoic acid]). (i) The mixtures with CS were incubated at 37°C; (ii) the mixtures without CS were stored at 24°C for 60 min, followed by addition of CS to assess condoliase activity by measuring the amount of N-acetylhexosamines enzymatically cleaved from CS using Morgan-Elson method.

Results: (i) In the presence of CS, the ionic contrast media reduced condoliase activity within 10 min in a dose-dependent manner, and the nonionic contrast media had no effect on condoliase activity for at least 120 min. (ii) In the absence of CS, the ionic contrast media almost completely inactivated condoliase within 15 min, and the nonionic contrast media also reduced condoliase activity; the residual activity was 65% with iotrolan and 35% with iohexol at 60 min.

Conclusions: The ionic contrast media significantly reduced condoliase activity regardless of presence or absence of CS. Although the nonionic contrast media did not affect condoliase activity in the

presence of CS, it reduced activity in the absence of CS. Mixing condoliase with contrast media, especially ionic type contrast media, should be avoided [1].

Condoliase for lumbar disc herniation

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Watanabe I, Shirogane T, Matsuyama Y, Chiba K. Effect of contrast media on the enzyme activity of condoliase: In vitro assessment. JOR Spine. 2022 Aug 19;5(3):e1221. doi: 10.1002/jsp2.1221. PMID: 36203868; PMCID: PMC9520762.