Title Nucleolysis percutaneous laser disc decompression

Agency Avalia-t. Unidad de Asesoramiento Científico-técnico,
Edificio Administrativo San Lázaro 15781 Santiago de Compostela
Telf.: 881 541 831 Fax: 881 542 854 e–mail: avalia-t@sergas.es http://avalia-t.sergas.es

Reference Paz-Valiñas L, Maceira-Rozas MC, Varela-Lema L. **[**Nucleolysis percutaneous laser disc decompression**]** Red Española de Agencias de Evaluación de Tecnologías Sanitarias y Prestaciones del SNS. Agencia Gallega para la Gestión del Conocimiento en Salud (ACIS). Unidad de Asesoramiento Científico-técnico, avalia-t: Galician Agency for HTA; 2016. Available from http://avalia-t.sergas.es/DXerais/652/01_avalia-t_NucleolisisDiscal_DEF.pdf

Aim

To assess the safety and effectiveness of PLDD in the treatment of lumbar, cervical and thoracic herniated discs.

Conclusions and results:

In general, the level of scientific evidence used to assess PLDD interventions for treatment of herniated discs is limited, and is essentially based on observational studies having a medium-low methodological quality. Our search located only one recent RCT with a good methodological design, which compared PLDD to conventional surgery in the lumbar area and indicated that PLDD (with additional surgery where necessary) was not inferior to conventional surgery. Based on these studies, and bearing in mind their limitations, good results were observed in terms of pain reduction (60%-89% of patients) and improvement of symptoms (54-83%) following PLDD interventions on the herniated discs. Special mention should be made of the laser technique's high failure rate after its initial success, which may necessitate reoperation with conventional surgery in up to 38% of cases treated with PLDD in the lumbar area. PLDD is a minimally invasive technique, which normally poses a slight risk and a low risk of complications. In lumbar treatment, discitis due to heat damage during the use of the laser is frequent in this technique; and in the cervical and thoracic regions there is a risk of appearance of retro-pharyngeal abscesses and pneumothorax, owing to the anatomy of vital structures in these areas. The PLDD approach is not incompatible with subsequent reoperations, whether by PLDD again or by conventional surgery.

To ensure effective and safe outcomes with PLDD, patients must be correctly selected, by exclusively including only those who meet the inclusion criteria. The principal indication is contained lumbar disc herniation which does not respond to conservative treatment, but PLDD would be contraindicated in the case of sequestered herniated discs and degenerative disease.

Methods

A systematic search was made of the medical literature covering the main computerised biomedical databases, i.e., PubMed, Embase, ISI Web of Knowledge, Centre for Reviews and Recommendations, Cochrane, etc. To retrieve unpublished data, the process was completed by a search of the databases of ongoing studies. Two independent reviewers selected the papers in accordance with a series of pre-established selection criteria. The data were then extracted using a purpose-designed form and qualitatively summarised in evidence tables. Study quality was assessed using the "U.S. PreventiveTask force"scale.

Written by

Teresa Mejuto Martí. Information Specialist. Galician Agency for HTA (avalia-t) Spain.