

Liste-18

CT-ASSISTED ENDOSCOPIC LASER DISCECTOMY (CTD)

Saballus R and Lutze MA

Purpose: The percutaneous procedures for treating lumbar disc herniation can be subdivided according to whether they lead to selective removal of disc tissue or to intradiscal decompression. The spectrum of indications for the fluoroscope-guided postero-lateral access is restricted. The present prospective study aims at determining the CT-guided postero-paramedian (PP) and trans-foraminal (TF) access enable safe and efficient decompression of the epidural space and nerve roots directly at the site of the disc herniation.

Methods: CT monitoring during surgery under local anesthesia permits the placement of a coaxial fiberscope precisely at the site of the prolapse. The laser (2.1 micron Ho:YAG) removes the space-occupying disc tissue under endoscopic control. Within a diameter of less than 3 mm (PP) and 5.1 mm (TF), the endoscope with a flexible tip consists of an 0.32 mm laser fiber, an optical and a light fiber and two working channels. We report on 54 patients who underwent CTD for lumbar nerve root compression due to paramedian or lateral disc herniation. Contraindications are: free fragments, spinal canal stenosis and instability.

Results: Clinical follow-ups after 12 and 24 months demonstrated a significant improvement of ischialgia and the sensory disturbances as well as motor deficits. The quality of life was assessed as 'good' to 'excellent' by 74% of all patients on the basis of a multimodal outcome score 24 after CTD.

Conclusions: Outpatient CTD enables:

- anatomy-directed and pathology-targeted access,
- efficient and safe decompression of neural structures,
- percutaneous removal of even subligamentous disc tissue,
- direct postoperative visualization of the decompression.