

Technique and Future of Epiduroscopy. Epi-C PolyDiagnost

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Introduction

The inability to make an accurate diagnosis in spinal pain is due to lack of understanding of the pathologic process. In order to make an actual diagnosis, that is, what hurts and why, the use of epiduroscopy of the lumbar epidural space was developed. With this technique optimal visualisation of three dimensional and coloured epidural structures is realized. The identification of the dominant pain components within a combination of possible algogenic mechanisms makes a decisive contribution to the success of therapy. Pathological structures, e.g. adhesion, sequesters, inflammatory processes, fibrosis and stenotic changes can be described endoscopically. Consequently, the use of effective and highly economical diagnostic tools of this kind will be of significance not only in diagnostics, but also – and above all – in the choice of appropriate therapeutic options

Furthermore, the technique offers not only in potential totally new opportunities for the treatment of pain syndromes of the spine.

Indications

- analysis of pathological / anatomical relations
- direct drug application
- direct lysis of scarring (pharmacological, dilatation, laser)
- placing catheter systems (epidural, subarachnoid)
- implanting stimulation electrodes (spinal cord stimulation)
- as an adjunct in minimally-invasive surgery

Methods

Epiduroscopic management must comply with contemporary routine micro-invasive operation standards, and must be performed in a suitable operating theatre.

Anesthesiological stand-by is required to monitor the patient's vital signs during the procedure.

With the patient in the prone position on an x-ray translucent table, epiduroscopy is performed under local anaesthesia. The sacral area is prepared and draped as a sterile field. A small incision is made at the introduction side and after introducing a guide wire and after dilatation an armed introducer sheath is inserted into the sacral canal. The Endoscope (Epi-C PolyDiagnost, Equip Medikey) is basically a reusable fiberoptic “cold light technology” wire that is introduced into a disposable scope. The scope, very flexible and steerable for easy manoeuvring, has an external diameter of 2.6 mm and the working length is variable from 300 mm to 600 mm.

It contains two separate injection ports. One port is used for continuous gentle saline irrigation saline as required. (Pressure controlled-Fluid on Demand). The other port is used as a working channel (1.2 mm) to introduce small instruments into the epidural space.

The Endoscope is introduced through the introducer sheath into the sacral canal and gently advanced with video image and fluoroscopic guidance to the level of the suspected pathology. The technique and some applications are demonstrated.