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**Introduction.** The Midline lumbar interbody fusion (MIDLIF) uses the cortical bone trajectory (CBT) pedicle screws instead of the traditional pedicle screws. The CBT screw follows a medial to lateral path in the transverse plane and is tilted caudally in the sagittal plane. This technique is minimally invasive, reinforces the screw pullout strength and reduces the approach-related morbidity.

**Aim of the study.** To explore the outcomes of MIDLIF technique application.

**Materials and methods.** Between December 2015 and December 2017, 36 patients (14 men and 22 women) underwent MIDLIF for degenerative spondylosis of the lumbar spine. The procedure included bilateral total facetectomy, bilateral intervertebral cage insertion and CBT pedicle screw fixation of the spine. The instrumented levels included L3 to S1, the L4-L5 being the most frequently fused level. For S1 screws, we used the penetrating endplate technique. The mean follow-up of the patients was 6 months after surgery.

**Results.** We noticed considerable postoperative improvement in both back and leg pain. The most frequently encountered complication was the pedicle fracture at the screw insertion site (6 cases). The mean blood loss, operation time and postoperative morbidity were significantly lower than in the conventional PLIF. We observed considerable improvement in VAS, SF-12 and ODI scores comparing to traditional techniques.

**Conclusions.** The MIDLIF procedure is comparable to the more traditional PLIF in terms of successful fusion rates and clinical outcomes, but with the additional benefits of less muscle damage, less blood loss and earlier return to daily activities.

**Key words:** cortical bone trajectory, lumbar interbody fusion

## 149. NEURONAVIGATION IN SPINAL SURGERY

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**Introduction.** In an era of information, it is of major importance to a modern neurosurgeon to understand and master the interpretation of various imaging and radiology techniques, in such a way implementing the neuronavigation in neurosurgery.

**Aims of the study.** Reviewing the literature the main goal is: the study, the characteristic and the particularities of the use of neuronavigation in spinal neurosurgery and not only.

**Materials and methods.** review of specialized literature.

**Results.** Studies have confirmed that spinal neuronavigation has considerably diminished the number of cases with incorrect instrument use and placement, while noting the benefit of reducing the radiation exposure of the surgical team, patient, and shortening the operating act by eliminating the need for repeat fluoroscopy (x-ray). As a result, the morbidity, time and costs of the procedure are reduced.

**Conclusions.** The presence of neuronavigation in a neurosurgical intervention facilitates intraoperative orientation and provides more precision and lesser trauma. Thanks to the exact location of the bolts, the reduction of potential risks, the application of a lower radiation dose and a better pre- and intraoperative planning, are the main arguments for the systematic use of this innovation in neurosurgery.

**Key words:** neuroinvagination, spinal surgery.

## DEPARTMENT OF UROLOGY AND SURGICAL NEPHROLOGY

### 150. ACUTE PYELONEPHRITIS IN DIABETES MELLITUS