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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

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**Introduction.** Diabetes mellitus(DM) is the most common chronic disease after cardiovascular and oncological diseases. The number of patients with DM increases annually. Because of homeostasis changes, diabetic patients have predisposition to infectious diseases, especially for urinary tract infections. Infections of urinary tract affect this group of patients 4 times more often than general population. There are some predisposing factors for apparition of urinary infections, such as high level of glucose in urine, which creates optimal conditions for colonization and reproduction of microorganisms, diabetic neuropathy, which affects the innervation of urinary tract and leads to vesicoureteral reflux and decreased activity of immune system.

**Aim of the study.** Determination of DM's importance and its evolution's duration in the pathogenesis of acute pyelonephritis. Research and visualization of clinical manifestations, evolution, diagnosis and treatment of acute pyelonephritis in patients with DM.

**Materials and methods.** For my research I've examined patients with acute pyelonephritis from the sections of Urology, Nephrology and Endocrinology from the Sf. Treimea Hospital. The research was based on the prospective and retrospective analysis of the investigation and treatment results of 60 cases of acute pyelonephritis, of which 43 patients with pyelonephritis developed after preexistent diabetes and 17 patients with acute pyelonephritis, but no diabetes. The examined patients were hospitalized in treatment facilities between 2015 and 2017.

**Results.** 86.04% (37 patients) of patients with acute pyelonephritis and DM were in advanced age, 51-60 years and over 60 years. The possibility of developing acute pyelonephritis in this category of patients was closely correlated with the duration and evolutionary form of DM. Patients with DM had poorly expressed clinical forms of acute pyelonephritis, 21 patients (48,8%) presented no fever, 10 (23.2%) had subfebrility, 37 (86.04%)- with moderate intensity pain in lumbar area. Blood analysis showed signs of immunosuppression with normal values of leukocytes at 25 patients (58.13%). The results of the paraclinical investigations revealed the presence of neuropathy in 26 patients (60.4%) with acute pyelonephritis and DM. Results of nephrography and scintigraphy - revealed the presence of nephropathy in 26 patients (60.4%) and proteinuria at 19(44.18%). At 30 patients (69.76%) infection has developed bilaterally.

**Conclusions.** The possibility of apparition of acute pyelonephritis increases with duration of DMs evolution. Patients with 5 years and more duration of DM had greater predisposition for pyelonephritis due to chronic changes in organism. Patients with DM had poorly expressed clinical manifestations of acute urinary tract infections. Patients with diabetes develop more often bilateral infectious process.

**Key words:** diabetes mellitus, acute pyelonephritis

## **151. THE EFFECTIVENESS OF THE GENERAL METAPHYLAXIS IN PATIENTS WITH UROLITHIASIS**

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**Introduction.** Urolithiasis is defined as the presence of stones in the urinary tract. The Global prevalence of the urolithiasis is about 10% of the general population. Its incidence is higher in