

can be used to build up composite images derived by the fusion of 3D intraoperative scenarios with neuroimaging-derived 3D models.

Conclusions. Our experience, in the Neurosurgical Department, has shown that this is an affordable technology with great opportunities. The models can be used for a variety of purposes (teaching, planning, 3d printing). The creation of individual 3D models for preparation for surgery is already actively used in several areas of neurosurgery.

Key words: segmentation, neurosurgery, 3d printing, reconstruction, planning

74. CRANIAL NEURONAVIGATION IN NEUROSURGERY: USEFULNESS IN RELATION TO TYPE AND SITE OF PATHOLOGY

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Introduction. Neuronavigation is an example of today's technological development applied to medicine that makes it more reliable, transforming surgical interventions into safer and less invasive procedures. Increasingly important is that the use of intraoperative image guidance like MRI, CT facilitates determining the location and the extent of the intraparenchymal lesions.

Aim of the study. The review of various aspects of neuronavigation, including a short history of the synergy between navigation and neurosurgery, as well as technical aspects applied in neurosurgery and clinical benefits in relation to type and site of pathology.

Materials and methods.. The review of literature and neurosurgical case examples of different type and site of pathology..

Results. Studies have shown that the use of neuronavigation improves the extent of resection, which in turn correlates with improved patient outcome and ensures a better preservation of function.

Conclusions. Neuronavigation improves intraoperative topographical orientation in neurosurgery. It is a helpful tool to define approaches, craniotomy flaps, borders of tumor resection or guidance of the endoscope in cases where visible anatomic landmarks are missing. Neuronavigation helps to prevent further neurological deficits making safer, less invasive, and more cost-efficient procedures.

Key words: neurosurgery, neuronavigation, contemporary methods

DEPARTMENT OF UROLOGY AND SURGICAL NEPHROLOGY

75. METHODS OF DIAGNOSTIC AND CONTEMPORARY TREATMENT OF RENAL SOLITARY CYST. CLINIC EXPERIENCE

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