
Intraoperative MRI Success at Tübingen Hospital



IMRIS Inc. has announced that University Hospital Tübingen neurosurgeons in Germany, are reporting success toward their objectives of limiting patient risk and improving surgical precision using intraoperative MRI for brain surgery procedures in the VISIUS® Surgical Theatre since its June 2011 installation.

"Using intraoperative MRI in the VISIUS Surgical Theatre has enabled us to perform more resection and more complete tumour tissue removal without increasing the patient's risk of new neurological deficits," said Dr. Constantin Roder, a neurosurgeon at University Hospital Tübingen. "In some cases," he added, "we've been able to see and remove tumour-residuals that wouldn't have been possible without iMRI."

More than 150 procedures, primarily gliomas and pituitary tumors and other types of skull-based neurosurgeries, have been conducted in the Tübingen iMRI suite. After 100 cases, the hospital neurosurgical team states no adverse events or patient safety issues related to the iMRI have occurred, according to a review article in the Theatre and Surgery section of the current issue of Hospital Healthcare 2013. "Not moving the patient during surgery is an important part of minimising patient risk," Roder said.

Retrospective analysis of patients after iMRI-guided resection of pituitary tumours (adenomas) shows that total resections improved in approximately 30 percent of the cases. Roder states that the total resection experience of Tübingen neurosurgeons with 16 difficult pituitary adenomas was improved in up to 63 percent of the cases. In addition, iMRI use could be attributed, he said, to improved precision and preservation when tumours are located near sensitive areas or critical anatomical structures.

Roder also stated that the number of total resections of glioblastomas was improved significantly by iMRI-guided surgery compared with conventional surgery as was expected based on published evidence. A safe total resection of high-grade gliomas, he added, is known to be one of the most important prognostic factors to expand survival in these patients.

The VISIUS Surgical Theatre at University Hospital Tübingen is Europe's first ceiling-mounted, high-field intraoperative MRI. The system gives neurosurgeons improved on-demand access to real-time and high resolution diagnostic quality MR imaging and data at any point during a procedure without moving the patient. The surgeon can visualise, evaluate and confirm results while modifying treatment without case interruption which may lead to improved outcomes and enhanced patient safety.

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