Son Espases University Hospital

A retrospective study of Department of Neurosurgery, Son Espases University Hospital and University Hospital of Salamanca, evaluated 407 patients who underwent stereotactic biopsies in the past 34 years. The surgical methodology changed through time, distinguished by three distinct periods. Different stereotactic frames (Todd-Wells, CRW, Leksell), neuroimaging tests, and planning programs were used. Using SPSS software v.23, we analyzed a total of 50 variables for each case.

The series included 265 men (65.1%) and 142 women (34.9%) (average age 53.8 years). The diagnostic yield was 90.4%, morbidity was 5.65% (n = 17), and mortality was 0.98% (n = 4). Intraoperative biopsy improved accuracy (p = 0.024). Biopsies of deep lesions (p = 0.043), without contrast enhancement (p = 0.004), edema (p = 0.036), extensive necrosis (p = 0.028), or a large cystic component (p = 0.023) resulted in a worse diagnostic yield. Neurosurgeons inexperienced in stereotactic techniques obtained more nondiagnostic biopsies (p = 0.043). Experience was the clearest predictive factor of diagnostic yield (odds ratio: 4.049).

Increased experience in stereotactic techniques, use of the most suitable magnetic resonance imaging sequences during biopsy planning, and intraoperative evaluation of the sample before finalizing the collection are recommended features and ways to improve the diagnostic yield of this technique [1)].

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Pharyngeal perforation after anterior cervical spine surgery treated by transoral endoscopic surgery.

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BACKGROUND: Anterior cervical fixation has been used since 1967 for multiple pathologies like traumatism, compressive myelopathy, or spinal infections. METHODS: We report the case of a patient who had undergone cervical spine surgery 10 years previously and presented to our clinic with a pharyngeal fistula due to surgical screw displacement that was treated by transoral endoscopic surgery. RESULTS: The immediate postoperative period occurred without incidence and complete odynophagia resolution. The patient was discharged home the fourth day after surgery. Follow-up after 1 year showed no evidence of spinal fixation hardware mobilization. CONCLUSION: We consider the transoral endoscopic approach a feasible low comorbidity technique to treat anterior cervical plate mobilization with pharyngeal and pharyngoesophageal perforations.

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“Intrasellar Balloon Technique” in intraoperative MRI guided transsphenoidal endoscopic surgery for sellar region tumors. Usefulness on image interpretation and extent of resection evaluation. Technical note.

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BACKGROUND: Intraoperative magnetic resonance imaging (iMRI) is an effective and proven tool in transsphenoidal endoscopic surgery. However, image interpretation is not always easy and can be hindered by the presence of blood, tumor remains or the displacement of surrounding structures. In this article we present a novel technique based on using intrasellar ballons to reduce these difficulties and facilitate the surgeon's intraoperative assessment by iMRI. METHODS: Eighteen patients with pituitary macroadenomas underwent transsphenoidal surgery during 2013-2014 under low-field iMRI control (PoleStar N20, 0.15 T). Intrasellar balloons were used in all of them to assess the presence of tumoral remnants. We compared the findings in iMRI and postoperative high-field MRI control scans and also analyzed the number of intermediate imaging controls needed during surgery using this technique. RESULTS: In total, of the 18 patients, 14 underwent a complete resection. In the remaining four patients, a safe maximal resection was performed, leaving a remnant because of cavernous sinus invasion. In all cases, the balloons were a major help in distinguishing the anatomical structures from the tumoral remnants. Fewer imaging controls were required, and there were no false-positives or negative intraoperative findings. No complications related to the technique were registered. CONCLUSION: The “intrasellar balloon technique” is a useful tool that facilitates surgeons' intraoperative decision making. It is an important contribution to overcome the limitations of low-field iMRI as it provides a precise delineation of the resection margins, reduces false-positives and -negatives, and decreases the number of intermediate imaging controls required.

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