and the likelihood of a successful trial proceeding to implant. **Results:** Compared to non WCB, the WCB patients were more likely to be offered a trial (86% vs 77%) and more likely to proceed with a trial if offered (82% vs 71%). Trial to implant ratios were similar in both WCB and non WCB patients (78% vs 77%). **Conclusions:** WCB patients were more likely to be offered a SCS trial and more likely to accept if offered, compared to non-WCB patients. However, both groups were similar in trial to implant probability.

Movement Disorders

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Subcutaneous intrathecal catheter and port implants for administration of Nusinersen in patients with Spinal Muscular Atrophy

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Background: Until recently, no effective treatment was available for spinal muscular atrophy (SMA). In 2017, Health Canada approved intrathecal Nusinersen a medication that prevents degeneration of the motor neurons in the spinal cord. The administration is intrathecally most commonly via lumbar puncture (LP) to have a direct effect on the motor neurons of the spinal cord. Many older patients with SMA and concomitant spinal deformities present technical challenges to access the thecal sac. Different routes have been described for delivery of the medication whoever these techniques may require sedation, are associated with radiation exposure, and demand experience personnel. **Methods:** A new surgical technique has been proposed to overcome these obstacles by combining two Health Canada approved devices: 1) an intrathecal catheter designed for intrathecal baclofen pumps and 2) an implantable subcutaneous port designed for intravascular medication administration **Results:** We describe the technical nuances and outline the clinical outcomes of six patients with complex spine deformities who have undergone such an implant for administration of Nusinersen. **Conclusions:** We discuss the benefits of the procedure which includes: 1) administration in the outpatient setting without sedation, 2) avoidance of costly imaging and experienced personnel, and 3) placement of the catheter in the cervicothoracic junction.

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Prospective cohort analysis of normal versus mild cognitive impairment for quality of life outcome following DBS for Parkinson's disease

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Background: All guidelines for DBS in Parkinson's disease (PD) include a contraindication for 'dementia'. It is unclear where this cut-off should occur and if patients with mild cognitive impairment (MCI) do not do as well. This prospective cohort analysis assessed if pre-operative cognition affected post-operative quality of life. **Methods:** PD patients receiving bilateral STN-DBS (n=100) were prospectively studied using STROBE guidelines. All had Montreal Cognitive Assessment (MoCA), motor (UPDRS), mood (BDI-II), and quality of life (Parkinson Disease Questionnaire summary index, PDQ-39-SI). Two cohorts, pre-operative MCI (MoCA:18-25) and normal cognition (MoCA:26-30), had post-operative PDQ-39-SI at 1-year. The primary outcome was the proportion of patients with an improved PDQ-39-SI at 1-year. **Results:** Cohorts were not significantly different in age, severity of illness, response to dopamine, or mood. MCI was present in 27/100. Improved quality of life at 1-year occurred in 75% with normal cognition and 70% with MCI (p=0.54) with RR=1.1 (95% CI, 0.8-1.5). Linear regression analysis showed no correlation between pre-operative cognition and post-operative outcome (R^2=0.02). **Conclusions:** Parkinson's patients with MCI should be offered DBS if their motor symptoms require surgery. Guidelines for DBS surgery in PD should change from "dementia is contraindicated" to "patients require adequate cognitive functioning, MoCA^{3}18".

Neuro-oncology

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Outcomes of Cranial Nerve Deficits in Patients with Pituitary Apoplexy: The Ottawa Hospital Experience

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Background: One of the rare but urgent presentations of a pituitary tumor is pituitary apoplexy. In this case series, we describe our experience regarding the cranial nerve recovery in patients with pituitary apoplexy following endoscopic endonasal transsphenoidal surgery (EETS). **Methods:** Retrospective cohort study with patient characteristics, tumor type, endocrine data, operation data collected. Postoperative data were extracted for the follow-up period available for each patient. **Results:** 15 pituitary apoplexy cases were identified. The cranial nerve deficits presented at admission were: visual deficit (33% patients); unilateral third nerve palsy (47% patients), unilateral sixth nerve palsy (27% patients). Postoperatively, 60% of patients with preoperative visual deficit had normal visual fields and the other 40% showed improvement. From those with oculomotor nerve dysfunction preoperatively, 43% have returned to normal nerve function and 57% presented improvement. 75% cases of abducens nerve palsy resolved postoperatively, while 25% showed improvement. **Conclusions:** Based on this series, surgical treatment should be offered to patients presenting with cranial nerve deficit in the setting of pituitary apoplexy. In this series, all cranial nerve deficits either returned to normal or improved following surgery. Though a small series, the presented results are superior to those reported in the literature for conservative management.