

organization's attempt at overcoming an operative need by designing a remote controlled stereotactic system.

## P.007

### Symptoms free survival of ventriculoperitoneal shunt versus lumboperitoneal shunt in idiopathic intracranial hypertension: a systematic review

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**Background:** Idiopathic intracranial hypertension (IIH) is a unique disorder that is characterized by an intractable high intracranial pressure. Several interventions have been in clinical practice upon failure of medical management. Yet, none of the available modalities have been evaluated systematically for an CSF diversion procedure. **Methods:** We conducted a systematic review in order to compare the therapeutic efficacy of the most two common interventions, namely VPS vs. LPS. The complications rate and incidence of shunt revision were assessed. The electronic database from EMBASE, Medline, Cochrane databases, and references of review articles have been used. **Results:** A total of five retrospective comparative studies had been included out of 724 articles based on inclusion and exclusion criteria. A 2570 VPS were compared to 1832 LPS with 85% of heterogeneity. Although there was a tendency that suggests better outcome in VPS over LPS but it was not statistically significant [OR=0.91, 95% CI: 0.26-3.24]. Similar tendency was observed as well with shunt obstruction. **Conclusions:** The overall outcomes for stabilizing visual deterioration and improvement of headaches were similar among VPS and LPS. A large prospective multicenteric randomized controlled trial is needed in order to compare effectiveness of VPS and LPS, and also to establish a treatment guideline for IIH.

## P.008

### Anterior skull base surgery future: intraoperative flash visual evoked potentials a novel technique to lessen intraoperative optic nerves and chiasmal injury

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**Background:** Optic nerve/chiasmal injury is a devastating outcome that may happen during endoscopic surgery. Additionally, one of the goals of endoscopic skull-base surgery is visual improvement, currently there is limited ability of intraoperative visual pathway monitoring. We examine a novel technique using continuous flash visual evoked potentials (FVEPs). **Methods:** Eyes were stimulated by light stimulators (3 LEDs on each side, 640 nm peak wavelength, 10 ms pulse width, 3000mCd of luminous intensity). Uniform illumination was placed over eyelids. Recording electrodes were placed at Oz-Fz. The filter cuts were  $\leq 5$  Hz and 100 Hz with amplifier gain 20,000 or 50,000. EEG was recorded. Recordings were correlated to pre and post operative VFs and acuity. Droop in the FVEP was examined in relation to intraoperative events. **Results:** Thirty patients had FVEPs in addition to other neurophysiologic monitoring. Patients demographic data, co-morbidities, diagnosis, surgical approach, length of surgery, MAP, and blood loss during surgery were recorded.

All patients' visual acuity and field deficits were evaluated by neuro-ophthalmologist before their surgery and within 30 days after surgery. **Conclusions:** FVEP is reproducible throughout surgery and can predict the post surgical outcome. Additionally, we found that FVEP is transiently affected by different stages of surgery. Also boluses of propofol and electrocautery can artificially affect FVEP.

## P.009

### Cervicomedullary decompression through expanded endoscopic endonasal approach: our clinical experience

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**Background:** patients with ventral cervical-medullary compression require anterior decompression of the cervicomedullary junction. Odontoid resection can be accomplished through expanded endoscopic approach especially in cases of irreducible basilar invagination in which the pathology is situated well above the palatine line. **Methods:** We are presenting our experience at the Ottawa Hospital (TOH) over the last seven years in patients who underwent expanded endoscopic endonasal decompression of their cervicomedullary junction. 16 patients underwent such procedure, those patients with preoperative cervical instability underwent posterior fusion for stabilization at the same surgical setting. Follow up ranged from 9 months to 5 years. **Results:** All patients had severe symptoms of myelopathy and some lower cranial nerves dysfunction. All patients were extubated after recovery from anesthesia and allowed oral intake next day. patients demonstrated improvement in their symptoms and none of them required tracheostomy. 12.5% experienced transient velopharyngeal insufficiency. one patient had CSF leak which was successfully treated with lumbar drain and one patient developed infection from the posterior cervical fusion and required debridement. All patients were eventually discharged home. Postoperative imaging demonstrated excellent decompression of the anterior cervicomedullary junction pathology. **Conclusions:** The expanded endoscopic endonasal approach for odontoidectomy should be considered as a minimally invasive approach for anterior decompression in selected cases

## P.010

### 5 layers reconstruction, superior semicircular canal dehiscence repair: our experience and surgical technique

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**Background:** Superior semicircular canal dehiscence (SSCD) is a recently described rare condition. SSCD symptoms include vertigo, oscillopsia, autophony, sound hypersensitivity, and conductive hearing loss. Patients with severe symptoms may require surgical treatment. Tranmastoid and middle fossa (MCF) approaches are common approaches. **Methods:** We are presenting our experience at the Ottawa Hospital over the last three years. Also we describe our multidisciplinary surgical approach and modalities to localize the SSCD intraoperatively. Demographic data, presenting symptoms, comorbidities, radiologic imaging, and surgery length were recorded. All patients had hearing and vestibular tests before and after their