& right > -2.0 (anosmia). Gustatory testing: Propylthiouracil Disc Taste test: 10 (normogeusia). Taste Testing Threshold: normogeusia to NaCl, Sucrose, HCl, Urea, and PTC. Other: DOPAPET: positive for Parkinson disease. Upper endoscopy: normal. **Conclusions:** Investigation for the presence of parkinsonian features in those with phantogeusia is warranted and chemosensory dysfunction including phantogeusia in those who presents with Parkinson's disease is worthy of exploration.

Other Neurosurgery (Adult and Paediatric)

P.116

Orbital lymphaticovenous malformation with intradural extension: a rare case

M Abbass (London) MK Tso (Calgary) E Weis (Calgary) AP Mitha (Calgary)*

doi: 10.1017/cjn.2018.218

Orbital lymphaticovenous malformations (LVM) are congenital vascular lesions that are typically infiltrative in nature. There have been reports of orbital LVMs extending intracranially through orbital fissures, but there have been no reports of intradural extension that we are aware of. We present the case of an otherwise healthy 25-year-old female with an orbital LVM extending intradurally. Imaging revealed an intraorbital lesion extending through a bony defect in the medial orbital roof to the orbitofrontal cortex. A modified orbitozygomatic approach was used to obliterate this lesion. A durotomy was created to examine the intradural extension of the lesion, which appeared as a lobulated red vascular structure emanating from the dura along the roof of the orbit. This was gradually and comprehensively bipolar coagulated and subsequently obliterated. Neurosurgical and ophthalmological collaboration was used in the surgical management of this case. In summary, we report the first case of an orbital LVM extending intradurally, and provide pre and post-operative imaging as well as images captured through the intraoperative microscope. Through this case we highlight the importance of an interdisciplinary approach when managing orbital LVMs, as both ophthalmological and neurosurgical expertise were critical in the success of the surgery.

P.117

A systematic review on opioid free analgesic techniques for supratentorial craniotomies

M Sourour (Ancaster) D Darmawikarta (Hamilton) R Couban (Hamilton) K Yang (Hamilton) S Kamath (Hamilton) KK Reddy (Hamilton) H Shanthanna (Hamilton)*

doi: 10.1017/cjn.2018.219

Background: Post-craniotomy pain can be severe and undermanaged. While opioids are the mainstay treatment, they have the potential to interfere with neurological monitoring. The objectives of this review are: 1) to identify measures to provide opioid-free analgesia 2) to compare the effectiveness of non-opioid to opioid analgesia in post-craniotomy pain. **Methods:** A comprehensive search of EMBASE, MEDLINE, and the Cochrane Central Registry of Controlled Trials (CENTRAL) databases was conducted for RCTs evaluating the effect of opioid vs non-opioid pain control strategies in patients undergoing supratentorial craniotomy. **Results:** The literature search yielded 462 citations, 5 RCTs that met the inclusion criteria for a total of 250 patients. Scalp infiltration/block was found to provide equivalent analgesia to morphine[1] and fentanyl.[2] Morphine was associated with slightly higher postoperative nausea and vomiting. Paracetamol was less likely to induce nausea and vomiting,[3,4] but provided inadequate pain relief compared to nalbuphine,[3] tramadol,[3] morphine[4] and sufentanil.[4] Dexmedetomidine[5] provided similar analgesia to remifentanil but did delay the time to first dose of rescue analgesia with similar side effects. **Conclusions:** Based on the limited number of RCTs comparing opioid to non-opioid techniques, no definite recommendations can be made with regards to the optimal management of post-craniotomy pain. Considerations should be made for use of multimodal analgesia-including adjuvant analgesics.

P.118

Trigemino-cardiac reflex: a case report of intra-operative asystole in response to manipulation of the temporalis muscle

H Shakil (Hamilton) A Wang (Hamilton) K Reddy (Hamilton)*

doi: 10.1017/cjn.2018.220

Background: The trigemino-cardiac reflex (TCR) is a sudden onset of bradycardia, hypotension, apnea or gastric hypermotility during stimulation of the trigeminal nerve. **Methods:** We conducted a MEDLINE search for surgical cases of TCR and herein describe a case seen recently at our institution. **Results:** A 60 year-old female underwent a left orbitozygomatic craniotomy for resection of a skull-base tumor. Pre-operative anesthesia evaluation was unremarkable and negative for a history of cardiovascular disease. Intra-operatively, retraction with moderate force of the temporalis muscle consistently produced asystole. Cessation of retraction resulted in immediate return of sinus rhythm. Otherwise, intra-operative heart rate was 60-90 BPM. Post-operatively, vital signs and clinical course were unremarkable. The patient experienced a similar phenomenon during an operation 6 years earlier, when manipulation of tumor near cranial nerves IX/X resulted in bradycardia. TCR is the result of a polysynaptic brainstem network involving the afferent trigeminal sensory nucleus, the reticular formation, and the efferent vagal motor nucleus. **Conclusions:** This is a case of exaggerated vagal response following manipulation of the temporalis muscle. Our report emphasizes the importance for neurosurgeons and anesthesiologists alike to be wary of TCR in order to avoid deleterious consequences when operating on structures associated with the trigeminal nerve.

P.119

Industry relationships with neurological surgery in the 2015 Open Payments Database

MP de Lotbiniere-Bassett (Calgary) PJ McDonald (Vancouver)*

doi: 10.1017/cjn.2018.221

Background: The 2013 Physician Payments Sunshine Act mandates that all US drug and device manufacturers disclose payments to physicians annually in the Open Payments Database (OPD).

We aimed to determine the prevalence, magnitude and nature of these payments to neurological surgery in 2015. **Methods:** Records of payments to physicians identified by the 'neurological surgery' taxonomy code in 2015 were accessed via the OPD. The data were analyzed in terms of the type and amounts of payments, companies making payments, and in comparison to previous studies. **Results:** In 2015, 330 companies made 83,690 payments ($99,048,607) to 7,613 physicians. The mean payment ($13,010) was substantially greater than the median ($114). Royalties and licensing accounted for the largest proportion of total payment value (74.2%), but only 1.7% of the total number. Food and beverage payments were the most commonly reported transaction (75%), but only 2.5% of the total value. Neurological surgery had the second highest average total payment per physician of any specialty. **Conclusions:** The overall value of payments to the neurological surgery specialty is driven by a small number of payments that may represent appropriate compensation for novel device development. The OPD provides an opportunity for increased transparency and for the interpretation of research in light of potential conflicts of interest.

P.120

Conflict of interest in neurosurgery: an analysis of disclosure policies in neurosurgical journals

MP de Lotbiniere-Bassett (Calgary) PJ McDonald (Vancouver) J Riva-Cambrin (Calgary)*

doi: 10.1017/cjn.2018.222

Background: Industry funding of neurosurgery research is on the rise and this creates a conflict of interest (COI) with the potential to bias results. The reporting and handling of COI is impacted by the variation in policies and definitions between journals. In this study we sought to evaluate the prevalence and comprehensiveness of COI policies amongst leading neurosurgical journals. **Methods:** We conducted a cross-sectional study of publicly available online disclosure policies in the 20 highest-ranking neurosurgical journals, as determined by Google Scholar Metrics, in July of 2016. **Results:** Eighteen (89.5%) of the top neurosurgical journals included COI policy statements. Ten journals requested declaration of non-financial conflicts, while two journals defined a time period of interest for conflicts. Sixteen journals required declaration from the corresponding author, 13 from all authors, six from reviewers and five from editors. Five journals included COI declaration verification, management or enforcement. Journals with more comprehensive COI policies were significantly more likely to have higher h5-indices (p=0.003) and higher impact factors (p=0.01). **Conclusions:** In 2016, the majority of high-impact neurosurgical journals had publicly available COI disclosure policies. Policies varied substantially across neurosurgical journals; but COI comprehensiveness was associated with impact factor and h5-index. More comprehensive and consistent COI policies will facilitate increased transparency in neurosurgery research.

P.121

Preoperative predictors of poor postoperative pain control: systematic review and meta-analysis

M Yang (Calgary) RL Hartley (Calgary) AA Leung (Calgary) PE Ronksley (Calgary) N Jette (New York) S Casha (Calgary) J Riva-Cambrin (Calgary)*

doi: 10.1017/cjn.2018.223

Background: Inadequate postoperative pain control is common and is associated with negative clinical outcomes. The objective is to identify preoperative predictors of poor postoperative pain control in the adult population undergoing inpatient surgery. **Methods:** Meta-analysis was performed according to MOOSE guidelines. Studies were included if they evaluated postoperative pain using a validated instrument in adults undergoing inpatient surgery and reported a measure of association between poor postoperative pain control and at least one preoperative predictor. Measures of association were pooled using random effects models. **Results:** A total of 33 studies representing 59,259 patients were included. Significant preoperative predictors of poor postoperative pain included sleeping difficulties (OR 2.32 [95% CI 1.46-3.69]), history of depressive symptoms (OR 1.71 [95% CI 1.32-2.22]), use of preoperative analgesia (OR 1.54 [95% CI 1.18-2.03]), smoking (OR 1.33 [95% CI 1.09-1.61]), female sex (OR 1.29 [95% CI 1.17-1.43]), presence of preoperative pain (OR 1.21 [95% CI 1.10-1.32]], history of anxiety symptoms (OR 1.22 [95% CI 1.09-1.36)], younger age (OR 1.18 [95% CI 1.05-1.32)], and higher BMI (OR 1.02 [95% CI 1.01-1.03]). **Conclusions:** Nine significant predictors of poor postoperative pain control were identified and these should be recognized as important factors when developing pre- and peri-operative strategies to improve pain outcomes.

P.122

Foramen magnum decompression of Chiari malformation using minimally invasive tubular retractors

N Zagzoog (Hamilton) K Reddy (Hamilton)*

doi: 10.1017/cjn.2018.224

Background: A surgical technique for foramen magnum decompression of Chiari malformation I in 11 patients is described. **Methods:** We used minimally invasive tubular retractors (METRx Quadrant) attached to a flexible arm to keep the retractor in a fixed position, while allowing flexible angulation under fluoroscopic guidance. Despite the small surgical opening, this approach allowed access to a wide working area, minimized soft tissue exposure, and optimized extent of decompression. For some patients, only the outer layer of dura was opened, but in cases where clinically indicated, a duraplasty was performed. **Results:** Postoperative CT head demonstrated satisfactory bony removal, and MRI with CSF flow study showed restoration, or significant improvement to CSF flow around the foramen magnum. There was a low incidence of post-operative complications, and the average length of hospital stay was around 1 day (1.2). For 10 out of 11 patients; their symptoms completely resolved on last follow-up, and for those who had syringomyelia, they demonstrated a radiological evidence of syrinx reduction or resolution. **Conclusions:** Based on our experience with this technique in foramen magnum decompression of Chiari malformation I, minimally