

diagnosed at a late stage because of its nonspecific and varying symptomatology, specifically in immuno-suppressive patients. Early diagnosis and treatment is the key to prevent more serious central nerves system complications. Methods: We report the case of a 80-year-old man with a 2 month history of retroorbital pain before he developed a subacute cavernous sinus syndrome, with 3th cranial nerve palsy and right-sided painful ophthalmoplegia. Patient was on immune suppression therapy for chronic lymphocytic leukemia. Neuroimaging including CT scan and MRI suggested a malignant tumor involving the sphenoid sinus with extension to cavernous sinus-orbital ape. Results: The diagnosis of aspergillosis was made trans-sphenoidal approach and by histopathological examination. Soon after surgical drainage of the sphenoid sinus and systemic anti-fungal drug therapy, Both retroorbital pain resolved and cavernous sinus syndrome slowly start to recover. Conclusions: This case emphasizes the fact that invasive isolated sphenoid sinus aspergillosis must be considered in the list of lesions causing sinus cavernous syndrome and particularly in immune suppressed patients. Early diagnosis is the key to prevent more serious central nerves system complications.

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Cerebral toxoplasmosis in an HIV-negative patient

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doi: 10.1017/cjn.2023.227

Background: *Toxoplasma gondii* is a protozoan parasite with the ability to infect any nucleated cell in humans. Most immunocompetent infected individuals are asymptomatic. Latent toxoplasma can become reactivated in immunocompromised individuals though this is exceptionally rare in HIV-negative individuals. Methods: We present the case of a 47-year-old male with chronic immunosuppression secondary to marginal zone lymphoma and steroid therapy. Results: The patient presented to hospital with a 1-week history of word-finding difficulties, intermittent right facial numbness and leg weakness, and tonic-clonic seizures. CT head showed a left temporal heterogenous mass measuring 2.8 × 2.8 × 3.5 cm. Biopsy of the lesion showed Multiple tachyzoites and rare bradyzoites with strong positivity for the toxoplasma specific immunostain. The patient was treated with trimethoprim/sulfamethoxazole which resulted in complete neurologic recovery. Conclusions: Our literature review included 32 cases of cerebral toxoplasmosis in HIV-negative patients with an overall mortality rate of 48%. Cerebral toxoplasmosis has a predilection for immunosuppressed patients with an underlying hematologic malignancy (74%, n= 23). Successful treatment requires early recognition of the disease and prompt treatment with sulfamethoxazole and trimethoprim, pyrimethamine, or sulfadiazine. Patients who recover from acute toxoplasmosis should remain on lifelong suppressive antibiotic therapy to prevent relapse.

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Illustrated case report: CSF shunt peritoneal catheter obstruction due to omental adhesion and fat stranding

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doi: 10.1017/cjn.2023.228

Background: CSF shunt obstruction secondary to omental adhesion alone, without cyst or pseudocyst formation, is rarely reported in the literature. Here we present a case of distal catheter obstruction due to omental wrapping with an atypical presentation of shunt failure. CT imaging demonstrated omental stranding. The shut revision was entirely laparoscopic. The case is supplemented with intraoperative images. Methods: Chart review and literature search. Results: 33-year-old female with right-sided cystoperitoneal shunt for posterior fossa arachnoid cyst who presented to ED with a picture of a surgical abdomen suggestive of acute cholecystitis. Interestingly, this patient had a gallbladder removed a year ago. CT abdomen showed non-specific findings of omental fat stranding around the tip of the catheter. Although this patient had no headache or any neurological symptoms, CT brain was done and showed increase in the cyst size. Diagnostic laparoscopy showed Intraoperative findings suggestive of active omental role in the aetiology of this shunt malfunction. After adequate adhesiolysis, the catheter was noted to be working and dripping CSF and repositioned into the peritoneal cavity. Conclusions: Shunt malfunctions due to omentoperitoneal adhesion is rarely reported but may in fact be under-recognized. This requires high index of suspicion especially in case of equivocal imaging.

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The value of using flash visual evoked potentials monitoring during minimally invasive endoscopic meningioma resection: a retrospective chart review

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doi: 10.1017/cjn.2023.229

Background: Endoscopic endonasal surgeries performed in areas involving the visual pathway are associated with postoperative visual dysfunction. We previously demonstrated that continued eye monitoring during surgery by flash visual evoked potential (FVEP) represents a good method to prevent/reduce visual deficit post-surgery. We wondered whether FVEP monitoring may be more beneficial in patients with meningioma, strongly associated with postoperative visual loss.

The aim was to explore the visual capacity in patients subjected to meningioma resection at The Ottawa Hospital. Methods: A retrospective chart review of patients who underwent minimally invasive endoscopic skull base surgery and FVEP monitoring for meningioma resection (July 2018 to present) was conducted. Only patients with available pre- (up to 3 months)

and post-surgery (1-9 months) visual evaluation were analyzed. Results: 40 eyes were included (20 patients). The median age was 61 years (range:43-84) and 90% of patients were female. The LogMAR visual acuity was not significantly modified post-surgery (from +0.25 to +0.21; $p=0.7$). Color vision (# errors reading Ishihara/16-plates) was not modified post-surgery (from 2.6 to 3.2; $p=0.6$). Visual field (Humphrey, 32-2) was not significantly modified post-surgery (from 78.1% to 81.9%; $p=0.7$). Conclusions: The prevention of visual pathway injury during surgery by FVEP monitoring prevents visual deficits after endoscopic meningioma resection.

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Characteristics of a large cohort of patients with acromegaly with surgical outcome by geographic living location

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doi: 10.1017/cjn.2023.230

Background: Acromegaly is a rare disease caused by a growth hormone-secreting pituitary adenoma which results in potentially debilitating skeletal, cardiac and gastrointestinal disease. Surgical resection can be curative, but in Southern Alberta, skull base surgeons and multi-disciplinary pituitary teams work at a single centre, raising the question of whether rurally-dwelling patients experience worse outcomes. We aim to characterize post-surgical remission rates by living location in acromegaly patients at our institution. Methods: A retrospective chart review supplemented a single surgeon database of patients with acromegaly treated at our centre (February 2011-April 2022) with demographic, endocrinological, and surgical variables. Statistical analysis was performed using Stata Version 17. Results: Our cohort included 47 cases of acromegaly (53% male), all treated with endoscopic transsphenoidal surgery. The average age at first operation was 46.7 years (20-69 years), 77% were macroadenomas, and the average adenoma size at initial MRI was 16mm. 54.55% of the urban cohort achieved immediate post-surgical remission, versus 28.57% of the rural cohort (OR:3.0(95%CI:0.67,15.51)). Conclusions: The characteristics of our cohort agree with the literature. The odds of immediate post-surgical remission in urban-dwelling patients was 3.0 times that of rurally-dwelling patients. Our results failed to meet statistical significance likely due to lack of power secondary to sample size.

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Exploring end-of-life decision making and perspectives on Medical Assistance in Dying through the eyes of individuals living with cervical spinal cord injuries in Nova Scotia

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doi: 10.1017/cjn.2023.231

Background: Individuals with spinal cord injuries (SCI) are invariably faced with decisions around management of their

injury; from life prolonging to palliating interventions. End-of-life (EOL) decision-making has recently come to include conversations around Medical Assistance in Dying (MAID), as legislation changes have expanded access. The intersection between SCI and MAID, and other EOL decision-making has yet to be explored. We sought to discuss awareness and perspectives on MAID and EOL decision-making. Methods: We conducted hour-long semi-structured interviews with 15 individuals living with cervical SCI. Interviews took place over the telephone or virtually, and transcripts were analyzed using an iterative coding process and thematic analysis. Results: There was a global lack of awareness of options, that changed with time as participants assumed more independent roles in decision making. Participants possessed general awareness of MAID, but variable understanding of who legislation applies to. The way individuals with SCI could interact with MAID legislation brought forth interesting discussions around bodily autonomy and self-determination. Some voiced their own desire initially for MAID, while others vacillated or were more strongly opposed. Conclusions: This study emphasizes the importance of engaging with difficult conversations, and striking the balance of respecting autonomy and self-determination, within the constraints of each individual's situation.

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Awake craniotomy in pregnancy: a systematic review

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doi: 10.1017/cjn.2023.232

Background: Awake Craniotomy during pregnancy is a rare but urgent procedure. Since pregnancy can both accelerate the progression of a tumor and mask other diagnoses, cases may lead to premature termination of pregnancy. From a neurosurgical, anesthetic, and obstetrical perspective, these operations may be challenging. Methods: In accordance with the PRISMA guidelines, MEDLINE, Scopus, and Web of Science databases were searched from inception to January 3rd, 2023. Studies were included if they included pregnant patients who underwent awake craniotomy. Results: Nine papers fit the criteria for the final analysis. All investigations were case studies. A total of nine patients were included. Mean age at surgery was 26.9 years, and mean gestational age at craniotomy was 20.9 weeks. Eight (88.9%) patients underwent craniotomy for tumor resection and the other had a pseudoaneurysm repair. Glioma was the most common tumor pathology (n=5), followed by meningioma (n=1), and glioblastoma (n=1). None of the patients experienced significant intraoperative or immediate postoperative complications. There were no obstetrical complications or significant changes in fetal status during or after surgery, and all reported deliveries were successful with healthy infants. Conclusions: Awake craniotomy during pregnancy can be a safe procedure with appropriate pre-operative patient selection and extensive multidisciplinary planning.