areas of abnormal T2/FLAIR or contrast enhancement can contain infiltrative tumour cells. The presence of isolated diffusion restriction may be a useful predictor of disease progression and prognosis but further investigation into the nature and behavior of isolated DWI lesions is required.

P.044

Prospective clinical detection of 2-hydroxyglutarate to predict IDH-mutant gliomas using magnetic resonance spectroscopy: preliminary results

MS Taccone (Ottawa) TB Nguyen (Ottawa) J Woulfe (Ottawa) I Moldovan (Ottawa) G Melkus (Ottawa) IG Cameron (Ottawa) F Al-Kherayf (Ottawa)*

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Background: With the advent of the 2016 WHO classification of tumours, prognostically distinct subclasses of glioma have been revealed. A subset of gliomas which harbor the isocitrate dehydrogenase (IDH) mutation have a survival advantage. 2-Hydroxyglutarate (2-HG) is a byproduct of faulty IDH metabolism in IDH mutants making it an ideal tumour biomarker. Since pre-operative detection of this metabolite using magnetic resonance spectroscopy (MRS) may yield valuable information for the neurosurgeon, we undertook the first Canadian utility study to detect 2-HG via MRS. *Methods:* We will recruit 150 patients presenting with a newly suspected glioma. All patients will undergo MRS scans for 2-HG pre-operatively and the neuropathologist will determine IDH status post-operatively based on immunohistochemistry and DNA sequencing. Pre-operative detection of 2-HG will be compared to post-operative IDH status. *Results:* To date, of 34 eligible subjects, 29 have glioma determined by pathology. Seven of these were IDH-mutant positive by pathology, of which 3 were detected by MRS. One glioma positive for 2-HG on MRS turned out to be IDH mutant negative on pathology. *Conclusions:* Prospective detection of 2-HG via MRS is feasible in the clinical setting. Additional subjects as well as refinement of our MRS protocol may yield higher sensitivity and specificity of this novel and clinically relevant diagnostic tool.

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P.045

Case of cavernous malformation hemorrhage immediately following normal brain imaging

S Ahmed (Saskatoon) ME Kelly (Saskatoon) L Peeling (Saskatoon)*

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Background: Spontaneous hemorrhage from angiographically occult vascular malformations is not a rare occurrence. We present a case of in-hospital cavernous malformation rupture after initial normal CT. *Methods:* A 55-year-old female presented with severe headache with onset during activity, and normal neurological examination. Rapid neurological deterioration occurred 60 minutes following the CT scan. The patient was intubated, and repeat CT scan showed significant parafalcine ICH and intrahemispheric SAH. ICU transfer and expectant management led to neurological recovery and discharge to rehabilitation. *Results:* The patient underwent angiography on initial admission which was negative. A delayed MRI showed the presence of a cavernous malformation. This was followed conservatively with repeat imaging. The malformation remained stable. *Conclusions:* Our unique case highlights the sudden onset of hemorrhage occurring almost immediately following normal brain imaging. A cavernous malformation was discovered to be the cause, and was observed.

P.046

Multiple intracranial mycotic aneurysms and management dilemma in postinterventional cerebral vasospasm: a case report

AA Al Jishi (Hamilton) R Takroni (Hamilton)* H Whittingham (Hamilton) M Meade (Hamilton) A Freitag (Hamilton) B Van Adel (Hamilton)*

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Background: Intracranial mycotic aneurysms are rare forms of vascular abnormalities. They are typically fragile and have high tendency to bleed. Even when they are successfully secured upon intervention, the medical management can be challenging in presence of other non-ruptured aneurysms and concomitant cerebral vasospasm. *Methods:* A 31 year old female was admitted with right sided large intracerebral hemorrhage due to ruptured mycotic MCA aneurysm. She was also known with severe tricuspid regurgitation from drug abuse. Others aneurysms were also located intracranially and extracranially, including subclavian and renal arteries. *Results:* The MCA aneurysm was successfully clipped during decompressive craniectomy. The non-ruptured left ACA aneurysm was occluded through endovascular intervention. Due to cardiac condition and presence of other non-secured extarcranial aneurysms, we followed the MNI protocol for treating cerebral vasospsam by milrinone infusion. The treatment was successful for over three weeks until another microaneurysm had ruptured which had lead to severe and rapid clinical deterioration, that had lead eventually to death. *Conclusions:* Intracranial mycotic aneurysms remain challenging. Patients should be selected for surgical clipping versus endovascular intervention based on clinical state and radiological features. We suggest using milrinone over induced hypertension therapy for post-intervention cerebral vasospasm in order to lower the risk for rupturing non-secured aneurysms.

P.049

Seasonal variations in aneurysmal subarachnoid hemorrhage: revisiting the myth using google trends

J Ku (Toronto) NM Alotaibi (Toronto) J Wang (Toronto) GM Ibrahim (Toronto)*

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Background: Results of previous studies examining seasonal variation in the incidence of aneurysmal subarachnoid hemorrhage (SAH) are conflicting. The aim of this study is to investigate whether there is a seasonal effect in online search queries for SAH that may reflect an association between meteorological factors and aneurysm rupture. *Methods:* We utilized the Google Trends data service to analyze the volume of internet queries for SAH on Google's search engine from January 1, 2004 to November 2016. We used compre-