

NSPCs from the periventricular region of the adult rat spinal cord were treated with ampakines CX614 and CX546 for 72h either alone or in the presence of low-dose glutamate (50 μ M). **Results:** Treatment with CX-546 or CX-614 in the presence of glutamate led to a significant increase in live cell numbers. This was due to both a reduction in cell death and increase in cellular proliferation. Ampakine/glutamate treatment led to a significant increase in cell survival compared to controls in the setting of oxidative stress. **Conclusions:** We present the first examination of the effect of allosteric AMPA receptor modulators on adult spinal cord--derived NSPCs. Positive modulation of AMPA receptors may be a promising therapeutic strategy in the sub-acute/chronic phases after SCI to increase survival of endogenous or transplanted NSPCs.

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Risk factors and etiology of stroke in young adults: a 6-years retrospective hospital-based study, OMAN

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doi: 10.1017/cjn.2018.192

Background: Stroke in the young is particularly tragic because of its potential for life time disability. Although a large number of studies have been published Worldwide. Very few have looked at etiologies in the youth of the Middle East, and none have focused on Oman. **Methods:** Retrospective, single center study, carried out at the Royal Hospital in Muscat. Chart review identifying all patients under 50 years of age admitted for acute stroke from 2009-2014. We analyzed the detailed history, examination and brain imaging (CT or MRI) for each case. We identified 588 young patients, 163 of these were excluded due to other diagnosis or absence of neuroimaging (CT or MRI). **Results:** Out of the 425 stroke cases, 67.3% were men. IS occurred in 69.6% compared to 30.4% for HS. Hypertension was the number one risk factor for both IS and HS, with a prevalence 50.7% and 60.5% respectively. DM was the second leading risk factor, with a prevalence of 32.1% in IS and 27.1% in HS. Underlying etiologies were identified in only 35.5% of cases in IS and 29.5% in HS. Cardiac etiology and vasculopathy were commonest for IS. Aneurysm was the main underlying etiology for HS. **Conclusions:** IS was more frequent than HS. Hypertension and DM were the leading risk factors for both stroke subtypes. Cardioembolism and vasculopathy were the main etiologies for IS. Cerebral aneurysm for HS.

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Small unruptured intracranial aneurysms: the natural history in Saskatchewan

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doi: 10.1017/cjn.2018.193

Background: The natural history of small unruptured intracranial aneurysms (UIAs) <7mm is 0 to 1.3% per year. Our centre provides cerebrovascular care for the entire province allowing for

long-term follow-up. We studied the safety of observation for aneurysms <7mm. **Methods:** We performed a retrospective chart review of patients with intracranial aneurysm referred to our centre between July 2008 and April 2015. Aneurysm characteristics and current status (followed, treated, not followed), were collected along with patient factors. Follow-up duration for each aneurysm was used to calculate total follow-up in aneurysm-years. Statistical evaluation consisted of multivariate analysis and logistic regression analysis. **Results:** 428 patients harbouring 497 aneurysms <7mm were identified. 67 presented with rupture. Of the remaining 430 aneurysms, there was a 9.3% treatment rate. 2 cases of rupture occurred in those patients who were followed, creating a 0.5% rupture rate. 325 aneurysms were followed for 631.3 total cumulative aneurysm-years, an average of 1.9 aneurysm-years. Smoking status and hypertension associated with presence of aneurysm ($p \approx 0.009, 0.026$, respectively). **Conclusions:** In our selected patient group there is a low yearly rate of aneurysm rupture, and observation of aneurysms <7mm is safe. Hypertension and smoking were associated with the development of aneurysm. 9.3% of patients were treated, likely leading to a reduced natural history risk.

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Eagles and Talons: A case of cervical artery dissection from Eagle syndrome and fibromuscular dysplasia

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doi: 10.1017/cjn.2018.194

Background: Eagle syndrome (also known as stylohyoid syndrome) and fibromuscular dysplasia (FMD) are rare conditions that have both been shown to be associated with cervical artery dissections (CAD). Direct mechanical injury from a neighboring bony fragment can produce arterial dissections and is the proposed mechanism in Eagle syndrome. The etiology of FMD remains unclear, however, similar shearing stresses have been proposed. We present a case in which both of these conditions were present. **Methods:** Case report **Results:** A previously healthy 52 year old male presented with an acute left MCA syndrome with computer tomography angiography followed by conventional angiography confirming a complete occlusion of the left ICA at the carotid bifurcation with evidence of a dissection of the proximal cervical carotid artery. Luminal irregularities proximal to the dissection and also of the right ICA were in keeping with fibromuscular dysplasia. A carotid stent was placed and a thrombectomy was performed for a proximal left M2 occlusion. On further review of the CT, the patient had markedly elongated styloid processes bilaterally, meeting criteria for Eagle syndrome. **Conclusions:** Previous literature has not described these two conditions co-existing. We question whether chronic mechanical stress from an elongated styloid process could lead to arteries having an irregular or beading appearance resembling fibromuscular dysplasia.