Puncture Site Bleeding Complications in Patients with Clopidogrel Hyper-Response. Three Case Reports

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Dual antiplatelet therapy (clopidogrel and acetylsalicylic acid) is a standard for the embolization of planned intracranial aneurysms with CNS stent due to the possibility of stent thrombus formation. All anti-aggregation drugs, including those listed, have bleeding as a side effect. Three patients with aneurysm had an elevated response to antiplatelet therapy with clopidogrel, which was confirmed by a multiplatelet test on the "VerifyNow" system. After reducing the dose of clopidogrel or after interrupting it, with the introduction of low molecular weight heparin for the duration of five days, aneurysms were successfully resolved by intracranial implantation of the stent. Perioperative angiograms and postoperative CT angiograms have verified hematomas at the place of puncture of the femoral artery. Bleeding was resolved by the femoral artery suture by a vascular surgeon. All patients were discharged home without further complications and with dual antiplatelet therapy. By measuring the platelet function in vitro, the degree of inhibition of platelet activity achieved by the action of the drug can be assessed. A specific test can identify those patients who are highly responsive to the drug with increased platelet reactivity and the possibility of increased risk of bleeding. Our suggestion is to reduce the dosage of clopidogrel or to leave it out for 24 hours with preventive doses of low molecular weight heparin or to change the strategy of treatment of intracranial aneurysm, i.e. avoiding implantation of CNS stent.

Post-traumatic Bilateral Pseudoaneurysms of the Middle Meningeal Artery: Case Report

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A 67-year-old male with no relevant medical history who was brought to the emergency room after he was found by a companion with a right temporal and orbital trauma. In the neurologic examination, he was somnolent, disoriented in time and space, with isochoric normoreactive, retrograde amnesia of the event, without motor deficit.

Simple cranial computed tomography (CT) scan: fracture of the squamous portion of the temporal bone, right frontotemporal SAH and temporal intraparenchymal hemorrhage.

Digital subtraction angiography, pseudoaneurysm of the right middle meningeal artery (direct trauma). Endovascular embolization treatment was performed with two coils (7mm x 30cm Concerto Helix Coil and 5mm x 15cm Concerto Helix Coil) for a 100% occlusion.

A second pseudoaneurysm was found in the left MMA probably shear stress trauma. Endovascular embolization was performed of the second pseudoaneurysm with 21% Histoacryl for 100% occlusion.

Conclusion MMA traumatic pseudoaneurysms are an infrequent pathology (<1% intracranial aneurysm) associated with head trauma. Bilateral pseudoaneurysms are even more uncommon. Because the natural history is under discussion and its mortality is high (20–25%) in case of rupture, it is important to perform an early diagnosis and timely treatment to prevent a catastrophic outcome.

Percutaneous Sclerotherapy for Intracranial Orbital Venolymphatic Malformation

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A 5-year-old girl presented with gradually worsening left sided proptosis and diplopia of few months duration. An intra-conal orbital venolymphatic malformation (VLM) was diagnosed on MRI. Medical management with Sirolimus was attempted initially. However, the proptosis kept worsening and the lesion kept increasing in size. Hence percutaneous sclerotherapy was offered as a minimally invasive treatment option. The aim of treatment was to shrink the lesion and not eradicate it. This was clearly explained to the patient, prior to the procedure.

The intra-conal VLM was targeted under ultrasound guidance through a medial canthal approach. Two 25G needles were placed into two different aspects of the lesion. Cone-beam CT-MRI fusion imaging was done to confirm the needle localization. Few ml of contrast was injected from both the needle positions to exclude rapid washout or communication with cavernous sinus. As it was a microcystic lesion, bleomycin was used as the agent of choice. Two sessions of percutaneous sclerotherapy was performed 6 weeks apart. Excellent clinical and imaging response was achieved. The diplopia improved within a few weeks of the first inject. After two injections the proptosis and diplopia completely resolved. On MRI, the volume of the lesion reduced from 5 ml to 1.1 ml. At 2 year follow up the patient remains well with no visual sign or symptoms. There is no interval increase in the size of the lesion.

This case illustrates that percutaneous sclerotherapy is a safe and highly effective treatment for orbital LMs with excellent outcomes, despite the technical challenge of puncturing these lesions behind the globe. In comparison, surgical resection is much more invasive with higher complication rates. Complete excision is rarely possible, and recurrences are high after surgery. Hence, sclerotherapy is evolving as the first-line therapy for orbital VLMs.