at last follow-up, functional outcome, or neurologic complications.


E-231 IMPACT OF HOSPITAL-ACQUIRED COMPLICATIONS IN LONG-TERM CLINICAL OUTCOMES AFTER SUBARACHNOID HEMORRHAGE
D Altschul*, S Unda, K Labagnara, J Birnbaum, M Wong, R De La Garza Ramos. Neurosurgery, Montefiore Medical Center, Bronx, NY
10.1136/neurintsurg-2020-SNIS.262

Objective Patients with subarachnoid hemorrhage (SAH) usually have prolonged hospitalizations due to the need to closely monitor their neurological status. Therefore, these patients have higher risk of experiencing hospital-acquired complications (HACs), which can complicate their clinical course and recovery. However, there is no evidence on the impact of HACs of long-term clinical outcomes. We aimed to identify if HACs are independent risk factors for poor clinical outcomes at 12 to 18 months of follow-up.

Methods Retrospective analysis of 323 patients with SAH diagnosis from 2013 until June 2018. We collected patient-related factors (age, sex, BMI, ethnicity), comorbidities (hypertension, smoke status, diabetes, coronary heart diseases, prothrombotic diseases and hypercholesterolemia), clinical variables ( Hunt-Hess grade, modified Fisher grade, treatment, delayed cerebral ischemia), aneurysm characteristics (location, size) and HACs (pneumonia, DVT, ITU, EVD infections, sepsis, hyponatremia and acute respiratory distress syndrome). Poor outcomes were defined as mRS ≥ 3.

Results 204 patients were included in the primary analysis. 82 (40.2%) experienced one or more HACs during their hospital course. Patients that developed HACs have significantly increased ICU (12.1 ± 6.6 vs 24.3 ± 23.6, p<0.001) and hospital (18.7 ± 14.2 vs 35.3 ± 26.3, p<0.001) length of stays. Moreover, patients with HACs had significant higher rates of delayed cerebral ischemia, non-routine discharge and poor outcomes at 90 days. 177 patients had complete follow-ups at 12 to 18 months, HACs were independent risk factors for poor functional outcomes at 12 to 18 months after adjusting for demographic, comorbidities and clinical variables [OR=3.205, 95% CI 1.231–8.347, p<0.017].

Conclusions HACs put patients at a higher risk of sustaining poor clinical outcomes 12 to 18 months after a SAH. Furthermore, HACs are significantly related with the occurrence of DCI, with non-routine discharge and 90-day poor functional outcomes.

Disclosures D. Altschul: 1; G; Medtronic. 2; G; Microvention, Stryker. S. Unda: None. K. Labagnara: None. J. Birnbaum: None. M. Wong: None. R. De La Garza Ramos: None.

E-232 MID-TERM RESULTS OF ANEURYSM TREATMENT WITH THE NEW SURPASS EVOLVE FLOW DIVERTER: A MULTICENTER EXPERIENCE
1/2E Orru*, 3H Rice, 1L De Villiers, 1A Wakhloo, 3G Song Chia, 1A Qureshi, 1T Kringa, 1/2V Pereira. 1Radiology – Division of Neuroradiology, Lahey Hospital and Medical Center, Burlington, MA; 2Joint Department of Medical Imaging – Division of Neuroradiology, Toronto Western Hospital, Toronto, ON, CANADA; 3Interventional Neuroradiology, Gold Coast University Hospital, Southport, Australia
10.1136/neurintsurg-2020-SNIS.263

Purpose Flow diverters have become a safe and well-accepted treatment option for intracranial aneurysms of most sizes in the anterior and posterior circulation. Surpass Evolve (SE, Stryker Neurovascular, Kalamaoz, Michigan, USA) is a new flow diverter that is available in large diameters (2.5–5 mm) and long lengths (12–40 mm), with high radial force and a high in-vitro flow diverting effect irrespective of the parent vessel tortuosity. This is secondary to a consistency in mesh density (15–30 pores/mm²) and a high number of wires (48–64, depending on the device length). SE can be deployed through an 0.027” microwire, allowing easy navigation within tortuous anatomies. We describe device characteristics and mid-term results in the first patients treated with the SE for intracranial aneurysms.

Materials and Methods We included in this report all patients that underwent aneurysm embolization with the SE at two different institutions. Patients’ data was prospectively collected in two databases and reviewed retrospectively. We included adult
patients harboring non-ruptured saccular or fusiform intracranial aneurysms with a wide neck (>4 mm) located in the anterior or posterior circulation. Standard dual anti-platelet therapy was started 5 days pre-procedure and continued for at least 6 months. Neurological complications were classified as intra-procedural, early or delayed if they arose within 1, 30 or more than 30 days from treatment, respectively. Neurological complications were considered minor and major if resulting in transient or permanent neurological morbidity, respectively. Clinical status at discharge and follow up was assessed by independent neurologists or neurosurgeons and imaging included MRI angiography (MRA), CT angiography (CTA) and DSA, depending on the institution.

Results The study included 28 patients (23 females, 82%; age range: 36–86, median age: 56) treated between April and November, 2019, harboring 29 aneurysms. Twenty-eight aneurysms were saccular and in the anterior circulation. The majority of aneurysms were <12 mm in diameter (18/29, 62%), 8/29 (28%) were large (<25 mm), 2/29 (7%) were giant (>25 mm) and one was fusiform and partially thrombosed (3%). The SE was delivered in all cases via a tri-axial approach with an intermediate catheter and a 0.027” microcatheter for implant delivery. This low-profile catheter allowed delivery of the implant through the trans-radial route. Thirty-two implants were used (4 in the patient with the fusiform aneurysm) with an average of 1.1 stents/patient. There were no intra-procedural complications. Median clinical and imaging follow up time was 6 months (range: 2–6 months). There were no deaths. Three patients (3/28, 11%) had early minor neurological complications. There was one (4%) early major neurological complication in a patient with a hemispheric stroke on post-op day 4. Two patients had minor delayed neurological complications (2/28, 7%). Complete thrombosis was seen in 16/29 aneurysms (55%), most of those imaged at 6 months, while partial thrombosis was seen in 12/29 aneurysms (41%). Covered side branches were patent in all patient but the one who experienced the stroke.

Conclusion The SE shows excellent navigability while keeping a high flow-diverting effect. Mid-term clinico-radiological results show good efficacy and acceptable safety of the implant.

Disclosures E. Orru: None. H. Rice: 2; C: Medtronic, Stryker, Philips, Penumbra, Microvention. L. De Villiers: None. A. Wakhloo: 1; C: Philips. 2; C: Stryker, Phenox. 3; C: SCENT trial. 4; C: InNeuroCo, EpiEP, Neural Analytics, Rist, Analytics 4 Life, ThrombX. G. Song Chia: None. A. Qureshi: None. T. Krings: 2; C: Stryker, Medtronic, Penumbra. 4; C: Marblehead Inc. V. Pereira: 1; C: Philips Healthcare. 2; C: Stryker, Balt, Cerenovous, Medtronic.

E-234 SINGLE-CENTRE STUDY OF ENDOVASCULAR TREATMENT OF MIDDLE CEREBRAL ARTERY (MCA) ANEURYSMS

G Chia*, 1H Rice, 1M Jaya Kumar, 1R Sharma, 1C Rapier, 2T Withers, 1L de Villiers, 1Radiology, Gold Coast University Hospital, Southport, Queensland, AUSTRALIA; 2Neurosurgery, Gold Coast University Hospital, Southport, Queensland, Australia

Purpose To evaluate safety and efficacy of endovascular treatment of MCA aneurysms. Current published data does not clearly demonstrate an advantage with either endovascular treatment or open neurosurgical clipping.

Methods and Materials Consecutive patients with ruptured and unruptured MCA aneurysms, treated with endovascular methods in our comprehensive multidisciplinary institution, from January 2008 to September 2019 were included. Database was prospectively acquired and retrospectively analysed. Baseline patient demographics, aneurysm location, size and previous treatments were collected. Imaging follow up was performed at 3 months, 6 months, 18 months, 2 years and 5 years. Data analyses focused on type of device used, procedure-related...