lisbon stroke summit

March 24th - 25th 2023

Grande Real Villa Itália Hotel

SCIENTIFIC PROGRAMME

07:30h **Secretariat opening**

08:30-09:45h **A MOST DIFFICULT CASE – "HOUSTON WE HAVE A PROBLEM"**
Posterior Circulation Thrombectomy
Hosts: Jaime Pamplona & Carla Ferreira
Case presentation
CO 02 | When there is little to lose, there is much to gain
Tania Rodriguez-Ares
How would you do it? | Audience voting
What we know | Pros and Cons
Wouter Schonewille *vs* Thanh Nguyen
Panel discussion
Ana Paiva Nunes *vs* Lia Neto
How we did it
Q & A

09:45-10:15h **KEYNOTE LECTURE** LESSONS LEARNED AND ADVICE TO BUDDING STROKOLOGISTS
Host: João Reis
Speaker: Louis Caplan
Young "strokologists"
Marta Rodrigues & João Pedro Marto

10:15-10:45h **INDUSTRY SYMPOSIUM**
FIRST-LINE STENT RETRIEVER THROMBECTOMY FOR M1/T-ICA OCCLUSIONS
Speaker: Pedro Vega
ENDOTHELIAL DAMAGE ANALYSIS WITH DOUBLE STENTING
Speaker: Manuel Requera Ruiz

10:45-11:15h **Coffee Break**

11:15-11:45h **"GO AHEAD, MAKE MY DAY": OFFICIAL WELCOME**
Hosts: João Reis & Vitor Tedim Cruz

11:45-12:45h

A MOST DIFFICULT CASE – "HOUSTON WE HAVE A PROBLEM"

Distal Thrombectomy

Hosts: Mariana Baptista & Diana Melancia

Case presentation

CO 05 | Endovascular thrombectomy of distal occlusion of the medial cerebral artery in a patient with mild stroke symptoms resulting in a worsened outcome
Diana Valente

How would you do it? | Audience voting

What we know | Pros and Cons
Tiago Moreira *vs* Urs Fischer

Panel discussion
Gustavo Santo & José Manuel Amorim

How we did it

Q & A

12:45-14:00h **Lunch**

14:00-15:15h

A MOST DIFFICULT CASE – "HOUSTON WE HAVE A PROBLEM"

Acute Extracranial Carotid Artery Occlusion

Hosts: Rui Carvalho & Catarina Fonseca

Case presentation

CO 06 | Extracranial large vessel endovascular recanalization
Mariam Cazola

How would you do it? | Audience voting

What we know | Pros and Cons
Donald Frei *vs* Francisco Mont'Alverne

Panel discussion
Miguel Rodrigues & Ângelo Carneiro

How we did it

Q & A

15:15-15:45h

KEYNOTE LECTURE MECHANICAL THROMBECTOMY FOR LARGE ISCHEMIC STROKES: THE END OF A JOURNEY?

Host: Isabel Fragata

Speaker: Raul Nogueira

15:45-16:15h **INDUSTRY SYMPOSIUM** Penumbra

CUSTOMIZING FOR EVERY CASE: CATHETER SELECTION AND FLIP THE SWITCH FOR OPTIMAL OUTCOMES

Speakers: Donald Frei & David Fiorella

16:15-16:45h **Coffee Break**

16:45-17:45h **A MOST DIFFICULT CASE – "HOUSTON WE HAVE A PROBLEM"**

Anticoagulation Treatment post ICH *vs* Atrial Appendage Closure

Hosts: Patrícia Ferreira & Luísa Rebocho

Case presentation

CO 01 | Avoiding the sword of Damocles: Atrial appendage closure after intracerebral haemorrhage in a patient with atrial fibrillation
Filipa Assis Jacinto

How would you do it? | Audience voting

What we know | Pros and Cons
Vitor Tedim Cruz *vs* Rafael Ruiz Salmerón

Panel discussion
Eduardo Oliveira & Teresa Mesquita

How we did it

Q & A

08:00h **Secretariat opening**

08:30-09:45h **A MOST DIFFICULT CASE – "HOUSTON WE HAVE A PROBLEM"**
Subarachnoid Hemorrage and Delayed Cerebral Ischemia
Host: Isabel Fragata
Case presentation
CO 07 | Unexpected aneurysm growth: Role of angiography versus less invasive vasospasm monitoring techniques in subarachnoid hemorrhage
Alexandra Rodrigues
How would you do it? | Audience voting
What we know | Pros and Cons
Michael Lev *vs* Gabriel Rinkel *vs* Nima Etminan
Panel discussion
Celeste Dias & Bruno Maia
How we did it
Q & A

09:45-10:15h **KEYNOTE LECTURE** ADVANCED STROKE IMAGE: CURRENT STATE OF ART AND FUTURE DIRECTIONS
Host: Diana Aguiar de Sousa
Speaker: Michael Lev

10:15-10:45h **INDUSTRY SYMPOSIUM** Medtronic
THE IMPACT OF COMBINED TECHNIQUE ON THE FIRST PASS EFECT
Speaker: Alejandro Tomasello

10:45-11:15h **Coffee Break**

11:15-12:15h **A MOST DIFFICULT CASE – "HOUSTON WE HAVE A PROBLEM"**
Intracranial Stenosis
Hosts: Carolina Pinheiro & Ângelo Carneiro
Case presentation
CO 03 | Intracranial stenting – Should it remain a last resource? A clinical case
Inês Carneiro
How would you do it? | Audience voting
What we know | Pros and Cons
David Fiorella *vs* Juan Arenillas
Panel discussion
Luísa Fonseca & Ricardo Veiga
How we did it
Q & A

12:15-14:00h **Lunch**

14:00-14:30h **KEYNOTE LECTURE** VALUE OF INTRAVENOUS THROMBOLYSIS IN ENDOVASCULAR TREATMENT FOR LARGE-VESSEL ANTERIOR CIRCULATION STROKE (IRIS)
Host: Ana Paiva Nunes
Speaker: Yvo Roos

14:30-15:15h **A MOST DIFFICULT CASE – "HOUSTON WE HAVE A PROBLEM"**
Cerebral Venous Thrombosis – Thrombectomy
Hosts: Diana Aguiar de Sousa & Catarina Perry

Case presentation

CO 04 | Venous thrombectomy in a case of refractory intracranial hypertension syndrome. Case report
Inês Freire

How would you do it? | Audience voting

What we know | Pros and Cons
René van den Berg *vs* Waleed Brinjikji

Panel discussion
João Reis & João Sargento Freitas

How we did it

Q & A

15:15-15:45h **"ELEMENTARY MY DEAR WATSON"**
Top 5 posters

PO 01 | Sometimes less is more: Relative perihematomal edema measurements do not predict the functional outcome in patients with intracerebral hemorrhage
Tiago pedro

PO 05 | Failed mechanical thrombectomy: Retrospective study of a single center experience
Joana freitas

PO 25 | The role of intracranial vessel wall imaging in cerebral amyloid angiopathy
João tarrio

PO 26 | unmasking pediatric moyamoya disease: clinical, imaging and genetic features of pediatric onset

André miranda

PO 30 | Navigating the variants of the internal carotid artery: A pictorial review for stroke management

Alexandra rodrigues

15:45-16:00h

"SHOOT OUT THE LIGHTS"

Closing Remarks

Awards

Best Oral Communication

Awarded by

mc medical
a werfen company

Best Poster

Awarded by

SPMI NEDVC NÚCLEO DE ESTUDOS DA DOENÇA VASCULAR CEREBRAL

SPAVC Sociedade Portuguesa do Acidente Vascular Cerebral

CO 01

AVOIDING THE SWORD OF DAMOCLES: ATRIAL APPENDAGE CLOSURE AFTER INTRACEREBRAL HAEMORRHAGE IN A PATIENT WITH ATRIAL FIBRILLATION

Filipa Assis Jacinto; Ângelo Fonseca; Diogo Fitas; Cristina Duque
Unidade Local de Saúde de Matosinhos, EPE / Hospital Pedro Hispano

Background: Atrial fibrillation (AF) is a common finding in patients with intracerebral haemorrhage (ICH), leaving the clinician with a difficult decision. AF is a major risk factor for ischemic events in the absence of anticoagulation, though recurrent ICH can occur if secondary prevention is started. Left atrial appendage closure (LAAC) is an alternative in selected cases, where anticoagulation might pose more harm than benefit.

Clinical case: A 70-year-old woman, with a history of hypertension, diabetes and hypertensive left temporal lobe ICH, was admitted to the hospital due to a 4-day history of headache and dizziness. She denied any head injury. Neurological examination was normal. CT-scan revealed an acute left temporal ICH. Brain angioMRI showed no signs of cerebral amyloid angiopathy, arteriovenous malformations or any acute ischemic lesions.

She was normotensive (140/72 mmHg) and the electrocardiogram identified a previously unknown AF. Transthoracic echocardiogram showed severe left atrial enlargement. She scored 5 in the CHADSVasc score and 4 in the HAS-BLED score, meaning that our patient would be a candidate for oral anticoagulation but at a high risk for major bleeding. In a multidisciplinary meeting, it was decided that LAAC was the best option, after weighing the risks and benefits for this particular case.

Conclusion: We present a challenging choice, showing that LAAC might represent a safe and effective therapeutic option in patients with AF and a prior history of ICH. While protecting against ischemic events, it prevents from further haemorrhagic complications, with an acceptable surgical risk. Patient-centred decisions in a multidisciplinary setting are fundamental in these complex cases.

CO 02

WHEN THERE IS LITTLE TO LOSE, THERE IS MUCH TO GAIN

Tania Rodriguez-Ares; Isabel Fragata; Mariana Baptista; Marisa Mariano; Joao Reis
Hospital de São José CHLC

Background: Ischemic stroke due to basilar artery occlusion has very high morbidity and mortality. Symptoms and signs can vary widely, with clinical fluctuations at onset, contributing to delayed diagnosis. Non-contrast CT has low sensitivity for detecting early parenchymal ischaemia, and MRI is often useful. The therapeutic window time for thrombectomy is still under debate but recent studies show that there may be benefit from treatment up to 24 hours.

Clinical case: We present a case of a basilar artery occlusion in a healthy 33-year-old male, with minimal risk factors (active smoker). The patient presented in the emergency department with acute onset vertigo, with normal neurological examination. Three hours later, his level of consciousness decreased, accompanied by anisocoria and generalised epileptic seizures, so he was intubated and ventilated. Head CT showed a hyperdense basilar artery and a CT angiography confirmed a mid-basilar occlusion. He was referred to our hospital and finally arrived after 20h since the

onset of symptoms. At this time, an MRI was performed showing extensive pons and cerebellar lesions without DWI/FLAIR mismatch. After multidisciplinary team discussion, the patient underwent endovascular thrombectomy, with a resulting TICI 2b. His neurological exam improved and he was discharged with a minor left weakness. After 3 months, he was back to normal life.

Discussion: In this patient, due to the evolution time of almost 24 hours from the onset of symptoms and the absence of DWI/FLAIR mismatch, the endovascular treatment was expected to be futile. However, given the young age of the patient and the predicted fatal prognosis with a conservative approach, rescue thrombectomy was performed, with a surprinsingly favorable outcome.

CO 03

INTRACRANIAL STENTING – SHOULD IT REMAIN A LAST RESOURCE? A CLINICAL CASE

Inês Carneiro; Guilherme Martins; Hugo Cadilha; Luísa Biscoito; Gonçalo Basílio

Centro Hospitalar de Lisboa Norte, EPE / Hospital de Santa Maria

Background: Intracranial atherosclerotic disease (ICAD) remains a common cause of ischemic stroke worldwide. The current guidelines recommend against stenting as an initial treatment for patients with symptomatic ICAD and medical therapy remains the standard of care. We describe a clinical case of symptomatic ICAD with progressive worsening of symptoms that was treated with intracranial stenting.

Clinical case: A 72-year-old man with history of previous stroke, atrial fibrillation, dyslipidaemia, and arterial hypertension was brought to the hospital after sudden onset of verbal articulation impairment and left hemiparesis. He was last seen well seven hours prior to the arrival and on examination he had anosognosia, right gaze deviation, central left facial palsy, left homonymous inferior quadrantanopia, mild dysarthria and pronator drift on the left arm (NIHSS 8). The computerized tomography (CT) showed signs of early ischemia on the right middle cerebral artery territory and the CT angiography indicated apparent occlusion of the M1 segment. The angiography revealed irregular stenosis of the right M1 segment, with distal slow flow, and it was decided not to intervene. Clinical deterioration was noted on the first day of hospitalisation, with onset of left hemiparesis with left arm plegia (NIHSS 11). The head CT and CT angiography showed signs of recent ischemia of the right caudate and lenticular nucleus and a proximal occlusion of the right M1 segment. Given the clinical - imagological dissociation, the patient underwent thrombectomy, with complete reperfusion after one M1 aspiration and stenting of the critical stenosis of M1. The motor symptoms improved, with return to NIHSS 7. The head CT done 24 hours after the procedure showed no new signs of ischemia.

Conclusion: We describe a clinical case where stenting lead to the prevention of a disabling stroke, highlighting the possibility of the primary goal of intracranial stenting in the prevention of high morbidity strokes, rather than minor or moderate strokes, where good long-term functional recovery is foreseen.

CO 04

VENOUS THROMBECTOMY IN A CASE OF REFRACTORY INTRACRANIAL HYPERTENSION SYNDROME. CASE REPORT

Inês Freire; João Gonçalves; Alexandra Rodrigues; Diana Aguiar de Sousa; Isabel Fragata; João Reis
Hospital de São José

Background: Cerebral venous thrombosis (CVT) is a less common type of stroke usually affecting young females. Clinical manifestations are related to increased intracranial pressure and/or focal brain injury resulting from increased venous pressure. Anticoagulation is the standard treatment. We report a case of severe visual impairment due to intracranial hypertension (IH) in a young patient with CVT in which endovascular treatment (EVT) to promote venous recanalization was performed after failure of medical management and was associated with clinical improvement.

Clinical case: A 36-year-old woman with a history of obesity and polycystic ovary syndrome, under oral contraceptives, presented to the emergency department with progressive headache associated with episodes of nausea, vomiting, and generalized tonic-clonic seizures. The diagnosis of extensive deep cerebral and dural venous sinus thrombosis was established by CT venography and MRI. There was evidence of bihemispheric sulcal subarachnoid hemorrhage and right thalamic infarction. During hospitalization, despite optimized medical treatment and therapeutic lumbar puncture, there was persistent papilledema and progressive loss of visual acuity, documented by fundoscopy and OCT. After considering the possible options, the patient was submitted to EVT (combined mechanical thrombectomy and local thrombolysis), resulting in partial recanalization. After the procedure, the patient had significant improvement in headaches and a gradual reversal of visual disorders. She was discharged from the hospital 3 weeks later, with slight loss of peripheral vision, but able to perform activities of daily living (mRS 2).

Conclusion: IH in patients with CVT is related to impaired CSF drainage to the venous sinuses. From a pathophysiological perspective, the promotion of fast recanalization is expected to improve IH. The association between clinical improvement and venous sinus recanalization observed in this case supports this mechanism and the possible use of EVT as a therapeutic option in cases of CVT with refractory IH.

CO 05

ENDOVASCULAR THROMBECTOMY OF DISTAL OCCLUSION OF THE MEDIAL CEREBRAL ARTERY IN A PATIENT WITH MILD STROKE SYMPTOMS RESULTING IN A WORSENED OUTCOME

Mafalda Vasconcelos[1]; Bárbara Lemos[2]; Carlota Lalanda[3]; Catarina Cabral[4]; Diana Valente[5]; Inês Ladeira de Figueiredo6; Alberto Fior[7]; Ana Paiva Nunes[7]
[1]Hospital Beatriz Ângelo; [2]Centro Hospitalar de Leiria / Hospital de Santo André; [3]Centro Hospitalar Universitário Lisboa Central, Hospital de Santo António dos Capuchos; [4]Centro Hospitalar de Lisboa Ocidental, EPE / Hospital Egas Moniz; [5]Centro Hospitalar do Algarve, EPE / Hospital de Faro; [6]Hospital Cuf Descobertas; [7]Hospital de São José

Background: Endovascular thrombectomy (ET) in stroke patients with low National Institutes of Health Stroke Scale (NIHSS) score and/or distal occlusion of the MCA is controversial.

Clinical case: An autonomous 87-year-old man with a history of arterial hypertension presented to the Emergency Department (ED) with intelligible dysarthria, right central facial palsy, right arm paresis and right hemihypesthesia, punctuating 5 in the NIHSS. Computed tomography (CT) scan excluded ischaemic or haemorrhagic le-

sions and angio-CT scan showed an occlusion of the M1 segment of the left medial cerebral artery (MCA). He arrived to the ED outside of the temporal window for thrombolysis and was transferred to our centre for ET. On arrival, he maintained the same neurological state. Angio-CT scan was repeated, documenting a migration of the thrombus to the M2 segment. Angiography showed occlusion of M3 branch of both superior and inferior divisions. Aspirative ET was performed, with opening and posterior re-occlusion of the vessel, with an end result of distal M1 occlusion. The patient evolved with worsened neurological deficits, namely non-fluent aphasia in mutism, right homonymous hemianopsia, right central facial palsy, right hemiplegia and hemihypesthesia (NIHSS of 21). Control CT scan showed a left temporal, insular, fronto-parietal and front-parasagittal ischaemic lesion. The patient was discharged of the stroke unit with severe disability (modified Rankin score of 5).
Conclusions: While the benefit of ET of proximal occlusions of the MCA is well established, the intervention in more distal occlusions is controversial. Moreover, if the neurological deficits are not major, as in this case, a cautious risk-benefit evaluation of this invasive procedure becomes imperative.

CO 06

EXTRACRANIAL LARGE VESSEL ENDOVASCULAR RECANALIZATION

Mariam Cazola; Diana Melancia; Ana Paiva Nunes
Hospital de São José

Background: As shown in many randomised clinical trials, mechanical thrombectomy is effective for intracranial large vessel occlusion. However, the best approach for isolated cervical internal carotid artery (ICA) occlusion is still debatable.
Objectives: We present a case of an isolated cervical ICA occlusion-related acute ischemic stroke submitted to endovascular treatment (EVT) with a positive outcome.
Clinical case: A 71-year-old man with previous medical history of hypertension and dyslipidemia presented with right sided hemiparesis and difficulty speaking. On first assessment, he presented with non-fluent aphasia with anomic pauses, right-sided hemiparesis, and ipsilateral upper limb dysmetria, NIHSS 4. CT scan was normal, CT angiography showed a filling defect on the left ICA, from the post-bulbar segment to the carotid canal, with preserved filling of intracranial vessels. Perfusion-CT showed a mismatch penumbra/core > 1.8. As he was beyond the therapeutic window, rTPA was not administered, being transferred to a tertiary centre. Angiography confirmed proximal occlusion of the left ICA with good collateralization, requiring carotid stenting and intrastent angioplasty. Subsequently, M1 and A1 ipsilateral segments were occluded, followed by aspiration thrombectomy, resulting in TICI3 reperfusion. Despite initial clinical deterioration, with worsening of aphasia and motor symptoms, symptoms gradually improved within 24–48 hours, NIHSS of 4 at discharge. Control CT showed no visible brain lesions or hemorrhagic complications. At follow-up, the patient remained asymptomatic, with good accomodation of the carotid stent on neurossonologic examination.
Conclusion: This case brings an additional insight and discussion to the use of EVT in isolated cervical ICA occlusion, suggesting a good outcome of endovascular treatment in this population.

CO 07

UNEXPECTED ANEURYSM GROWTH: ROLE OF ANGIOGRAPHY VERSUS LESS INVASIVE VASOSPASM MONITORING TECHNIQUES IN SUBARACHNOID HEMORRHAGE

Alexandra Rodrigues[1]; João Gonçalves[2]; Inês Freire[1]; Catarina Perry da Câmara[1]
[1]Centro Hospitalar de Lisboa Central, EPE / Hospital de Santa Marta; [2]Centro Hospitalar Universitário de Lisboa Central

Background: Subarachnoid hemorrhage (SAH) is a devastating neurological event that can lead to complications such as vasospasm and delayed ischemia. The management of these complications can be challenging, requiring close monitoring and timely interventions.
Objective: The aim of this study is to discuss the challenges in managing a SAH patient with multiple complications, particularly focusing on vasospasm monitorization using non-invasive techniques such as transcranial doppler (TCD) compared to more invasive methods like angiography.
Clinical case: A 39-year-old male presented with sudden headache, vomiting, and seizure. CT showed SAH and an anterior communicating artery aneurysm. Endovascular treatment was performed, and the patient was induced into a barbiturate coma to control intracranial hypertension (IH). However, he developed septic shock, requiring vasopressors, complicating the management of IH. Severe vasospasm was documented on TCD, followed by endovascular treatment with both chemical and mechanical procedures. Angiography showed aneurysm growth on the 15th day post SAH and a new embolization was performed. Despite tight control of vasospasm, a new ischemic lesion was found in MRI, and the patient developed difficult-to-control delirium.
Results: In this clinical case, we highlight the challenges of monitoring vasospasm in patients with SAH, particularly those in a coma. Furthermore, we discuss the relevance of angiography in detecting aneurysm growth and compare the various techniques to monitor vasospasm, including TCD, perfusion MRI, CT, and angiography.
Conclusion: Non-invasive techniques such as TCD are useful in monitoring vasospasm and may help to prevent delayed ischemia. However, invasive methods like angiography may be helpful to detect aneurysm growth.

PO 01

SOMETIMES LESS IS MORE: RELATIVE PERIHEMATOMAL EDEMA MEASUREMENTS DO NOT PREDICT THE FUNCTIONAL OUTCOME IN PATIENTS WITH INTRACEREBRAL HEMORRHAGE

Tiago Pedro[1]; Catarina Pisco[2]; Ana Aires[1]; Luísa Fonseca[1]; Pedro Castro[1]
[1]Centro Hospitalar de S. João, EPE; [2]Faculdade de Medicina da Universidade do Porto

Background: Perihematomal edema (PHE) is a radiological marker of secondary brain injury following intracerebral hemorrhage with an established prognostic impact. However, other PHE measurements, such as relative perihematomal edema and edema extension distance, have been seldom studied.
Objectives: We aimed to study the role of novel relative perihematomal edema measurements in the 90-day functional outcome of patients with primary intracerebral hemorrhage.
Methods: A total of 215 with primary intracerebral hemorrhage and brain CT scans at admission and at 24 to 72 hours following hemorrhage onset were enrolled. Relative perihematomal edema measurements were determined using semiautomated planimetry and logistic regression was used to study their effect on the patients' 90-day mRS score.
Results: Median age was 73 years and 54.4% were males. Univariate logistic regression showed that absolute admission (OR=0.976; 95% CI 0.958-0.993; p=0.007) and control (OR=0.975; 95% CI 0.960-0.990; p=0.002) perihematomal edema were associated with functional outcome. No significant associations were found for relative perihematomal edema and edema extension distance. After adjusting for confounders, only control absolute perihematomal edema, and not at admission, was associated with the 90-day functional outcome (aOR=0.969; 95% CI 0.948-0.991; p=0.007).
Conclusion: Control absolute perihematomal edema decreased the likelihood of a favorable short-term functional outcome independently of hematoma volume and its location. Relative perihematomal edema and edema extension distance did not seem to be clinically relevant, although regression models may be biased by the strong collinearity between perihematomal edema and hematoma volume.
Keywords: intracerebral hemorrhage, functional outcome, perihematomal edema.

PO 02

THE ROLE OF NEUTROPHIL-TO-LYMPHOCYTE RATIO AND SIRS IN PREDICTING PERIHEMATOMAL EDEMA IN PATIENTS WITH INTRACEREBRAL HEMORRHAGE

Tiago Pedro[1]; Catarina Pisco[2]; Ana Aires[1]; Luísa Fonseca[1]; Pedro Castro[1]
[1]Centro Hospitalar de S. João, EPE; [2]Faculdade de Medicina da Universidade do Porto

Background: Intracerebral hemorrhage (ICH) triggers inflammatory pathways involved in the development of secondary brain injuries. The neutrophil-to-lymphocyte ratio (NLR) has been shown to increase perihematomal edema (PHE) in patients with ICH, but data comparing its effect with the presence of systemic inflammatory response syndrome (SIRS) is scarce.
Objectives: We aim to study the effect of both NLR and SIRS at admission and at 24 to 72 hours following hemorrhage onset on absolute (aPHE) and relative PHE (rPHE).
Methods: A total of 215 with primary intracerebral hemorrhage were enrolled. Absolute and relative PHE measurements were determined using semiautomated planimetry.

Linear and logistic regression were used to determine the effect of NLR and SIRS on PHE.
Results: Median age of 73 years (interquartile range 66-80) and 54.4% were males. At 24 to 72 hours following ICH onset, NLR significantly increased aPHE (B=1.165; 95% CI 0.300;2.031; p=0.009) and SIRS decreased rPHE (OR=0.441; 95% CI, 0.217-0.899; p=0.024). However, these effects lost statistical significance after adjusting for multiple confounders.
Conclusions: Neutrophils are the earliest leukocytes recruited from peripheral blood to the brain after ICH onset thus contributing to cerebral edema formation. SIRS seems to contribute to both hematoma volume and PHE, which may explain its negative effect found on univariate analysis. NLR and SIRS are not consistent nor independent predictors of PHE formation or growth at 24 to 72 hours following ICH onset.
Keywords: intracerebral hemorrhage, neutrophil-to-lymphocyte ratio, perihematomal edema, systemic inflammatory response syndrome.

PO 03

ANGIOGRAPHIC IMAGING FINDINGS ARE INDEPENDENT PREDICTORS OF UNFAVORABLE FUNCTIONAL OUTCOME IN PATIENTS WITH CERVICAL ARTERY DISSECTION

Tiago Pedro; José Maria Sousa; Bárbara Martins; Andreia Costa; Luís Albuquerque
Centro Hospitalar de S. João, EPE

Background: Cervical artery dissection (CAD) is a major cause of ischemic stroke in the young but may occur at any age. While clinical features raise suspicion for dissection, diagnosis is confirmed by neuroimaging findings.
Objectives: We aim to study the effect of angiographic signs of CAD on the patients' 3-month functional outcome.
Methods: Retrospective cohort study including 71 patients with confirmed CAD without intracranial thrombus using MRI and/or CT angiography. The primary outcome was a favorable functional outcome (modified Rankin Scale [mRS] score 0–2) measured 3 months from baseline. ROC analysis and binary logistic regression adjusting for potential confounders were performed.
Results: Median age of 47.0 years (IQR 15.0) and 42 (59.2%) were males. Arterial occlusion (aOR=0.218; 95% CI 0.064-0.744; p=0.015), pseudoaneurysm (aOR=0.106; 95% CI 0.029-0.384; p=0.001), and intimal flap or double lumen (aOR=0.102; 95% CI 0.028-0.377; p=0.001) were independently associated with unfavorable functional outcome at 3 months after CAD. Arterial occlusion did not show significant discriminative power (AUC= 0.366; 95% CI 0.231-0.502; p=0.061). Intramural hematoma, long filiform stenosis, and rat-tail-shaped or flamelike occlusion were not predictors of functional outcome in CAD patients.
Conclusion: Neuroimaging signs in CAD may help to stratify patients based on their potential functional recovery. Further studies considering the effects of collateral status and revascularization are warranted.

PO 04

RADIATION EXPOSURE IN MECHANICAL THROMBECTOMY – ARE WE WITHIN THRESHOLDS?

Maria Inês de Sá; Joana Freitas; Hugo Cadilha; Guilherme Martins; Lia Lucas Neto
Centro Hospitalar de Lisboa Norte, EPE / Hospital de Santa Maria

Background: Mechanical thrombectomy (MT) with stent retrievers or aspiration catheters has become part of the standard-of-care for acute ischemic stroke with large vessel occlusion.

However, the x-ray assisted procedure may carry health risks for both patient and interventionists, due to stochastic/deterministic effects of radiation exposure.

Objective: Analyze the difference in Radiation Exposure and Fluoroscopy Time between MT techniques and compare our data with proposed achievable levels published in literature.

Methods: We retrospectively collected and analyzed data from patients with M1 occlusion that underwent MT for a period of 12 months. For each MT technique-group (stent retriever, aspiration or combination of techniques), mean Radiation dose (Total Air Kerma-mGy), Fluoroscopy Time (minutes), Dose Area Product (DAP- Gy/cm2), Contrast Load (mL) and Procedure Time (minutes) were assessed. These data were compared between techniques and with published thresholds.

Results: From a total of 242 MT, 99 had M1 segment occlusion. Eighteen patients were excluded (missing data/spontaneous reperfusion), leading to 81 patients included. A-stent retriever n=4; B-Aspiration n=52 and C-Combined n=25. Mean Fluoroscopy time: A-24, B-12.26, C-30.62; DAP: A-72.75, B-57.93, C-277.35; Total Air Kerma: A-543.5, B-351.71, C-1084.92; Procedure time: A-57, B-29.5, C-77.2 and Contrast Load: A-80, B-71.35, C-150.4. All values were significantly lower in the aspiration technique.

Conclusion: Aspiration shows the lowest radiation exposure and contrast load compared to other techniques. Except when using combined techniques, stent or aspiration alone MT were within proposed Radiation levels from literature (DAP-148 Gy/cm2 and Total air Kerma-730 Gy).

PO 05

FAILED MECHANICAL THROMBECTOMY: RETROSPECTIVE STUDY OF A SINGLE CENTER EXPERIENCE

Joana Freitas; Hugo Loureiro Cadilha; Maria Inês de Sá; Carla Guerreiro; Manuel A. Correia; Lia Lucas Neto
Centro Hospitalar de Lisboa Norte, EPE / Hospital de Santa Maria

Background: Mechanical thrombectomy (MT) is a class 1A evidence for treatment of acute ischemic stroke with large vessel occlusion (LVO). The modified thrombolysis in cerebral infarction (mTICI) score is used to assess reperfusion after MT, having a prognosis value. Failure to recanalize, in 20% of cases, decreases the chance for a good functional outcome (modified Rankin Score ≤2). MT may fail for a variety of reasons: difficult vascular access, thrombus composition, device–thrombus interactions or distal emboli.

Objectives: Report our experience with unsuccessful MT and analyze technical causes and patient-related predictors for failure.

METHODS Retrospective review of patients with MT failed recanalization at our institution (October/2017-February/2023). Failed MT was defined as a mTICI score of 0, 1 or 2A. Demographic data, vascular risk factors, NIHSS score, ASPECTS and procedural details were collected. Multivariate analysis was performed.

Results: From a total of 1544 procedures, 211 (13.7%) had a mTICI score ≤2A. 127 patients were female (60,8%), mean age was 73.4 (range from 36 to 97). Inability of the device to open the vessel, despite reaching the occlusion site and several techniques attempts, was the most common cause for failed MT (55,5%). In 69 cases (32.7%), thrombus could not be accessed/passed with the device due to anatomical or mechanical causes and in 22 cases (10.4%) the vessel re-occluded after re-permeabilization. There were 3 cases of

intra-procedural hemorrhage that led to the end of the thrombectomy.

Conclusions: Failed MT was encountered in 13,7% of our procedures, in accordance with the literature. Despite the development of new tools/techniques, the main causes for failure are the inability of the devices to open the vessel or reach the thrombus.

PO 06

IMPACT OF THE SARS-COV-2 PANDEMIC IN NON-COVID PATIENTS WITH ACUTE ISCHAEMIC STROKE SUBJECTED TO THROMBECTOMY.

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Introduction: The aim of this study is to assess the impact of the SARS-CoV-2 pandemic on non-COVID patients with acute ischaemic stroke, submitted to endovascular treatment (EVT). The impact was studied in terms of pre-hospital admission, inter-hospital transport and treatment, imaging and clinical outcomes.

Methods: Data was collected retrospectively between March and May 2020, which were compared to the same months in 2019. Patients with ischaemic stroke who underwent mechanical thrombectomy at the Neuroradiology Department of Hospital Santa Maria were selected. 123 individuals were included, 55 from 2019 and 68 from 2020.

Results: Sample population was represented by 51% male and 49% female patients, with a mean age of 73 years-old. During SARS--Cov-2 Pandemic there was an increase in the time between onset of symptoms and hospital admission by 39 minutes at Hospital Santa Maria (p=0.021) and 18 minutes at other hospitals (p=0.969). The "Door-to-Needle" and "Door-to-Recanalization" times increased by 23 (p=0.354) and 4 minutes (p=0.238), respectively. Regarding recanalization success rates, the number of cases with Thrombolysis In Cerebral Infarction scale <=2 were 15.55% higher in 2020 (p=0.031) and haemorrhagic transformation at 24 hours decreased by 9.6% (p=0.388). Patients with modified RANKIN scale >2 increased by 6.5% in 2020 (p=0.540). However, in-hospital mortality increased fivefold in 2020 (p=0.031).

Conclusion: The pandemic has caused a decrease in attendance to accident and emergency departments, resulting in increased time from onset of symptoms to hospital admissions. The restrictions imposed by the COVID-19 pandemic demanded a constant need to adapt healthcare services, hence justifying the increase in intra-hospital times. In spite of this, imaging and recanalization outcomes were better in 2020, possibly due to advancements in EVT and accumulated experience of interventional neuroradiologists. Nevertheless, there was an unexplained increase in--hospital deaths, which could maybe be due to the need to divert resources to respond to the pandemic.

PO 07

ARE THERE SEX DIFFERENCES IN PRE-HOSPITAL ACCESS AND OUTCOME AFTER MECHANICAL THROMBECTOMY IN STROKE?

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Background: Ischemic stroke outcomes may vary between men and women due to distinct biological differences, with some studies indicating that women may present with nontra-

ditional symptoms of acute stroke, leading to delayed diagnosis and treatment. This study aims to investigate whether there are sex differences in pre-hospital access and outcome after stroke due to large vessel occlusion (LVO) after mechanical thrombectomy (MT).

Methods: Clinical data of patients treated with MT due to anterior circulation LVO during 2022 were collected from the Neuroradiology Department of Hospital Santa Maria registry. The Pearson χ^2 test and independent samples t-test were used for categorical and continuous variables, respectively. P-values < 0.05 were considered statistically significant.

Results: This study included 235 patients (53.6% women; 46.4% men). Women were older compared to men (median age 77.0 vs 71.8 years, p=0.002). Upon admission, NIHSS scores were not statistically different between women and men (18 vs 17, p=0.215), but women scored lower on ASPECTS (8 vs 9, p=0.038) scores. Women took an extra 94 minutes (p=0.018) to arrive at the first hospital. There were no significant differences between men and women in "Door-to-Needle" (110 vs 134 minutes, p=0.410) and "Needle-to-Recanalization" (49 vs 59 minutes, p=0.466) times, despite there being a tendency for shorter times in women. Recanalization success rates and hemorrhagic transformation were not statistically different.

Conclusion: This study showed further insights into sex differences in stroke, indicating that women may experience delays in getting medical care, with an impact on ASPECTS scores. However, these differences don't seem to impact the technical outcome of MT. If these sex differences are proven, healthcare providers should be aware of and provide tailored treatment to ensure that all stroke patients receive optimal care.

PO 08

LOOKING BEYOND STROKE RISK SCALES IN PATIENTS WITH AF AND HEMORRHAGIC STROKE

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Stroke physicians treating hemorrhagic stroke patients who are taking anticoagulants due to atrial fibrillation (AF) are always faced with the dramatic question on whether to restart this antithrombotic therapy. Risk scores help taking this decision but may not assess patients' full risk.

Case reports: We present 3 patients with known AF who presented to our hospital with primary hemorrhagic stroke, two treated with direct acting anti-coagulants (DOAC) and one with warfarin. Only one was truly anticoagulated, since one had stopped the DOAC 2 weeks before and the other had an INR under the target range (<1.7). According to the CHA2DS-2-VASc risk score, they were all considered high risk patients for a recurrent embolic event, with low to moderate risk of hemorrhage recurrence (using the HAS-BELD score). Although none had an identified vascular malformation responsible for the hemorrhagic event, they all had imagiological evidence of moderate to severe small vessel disease. Only one patient resumed anticoagulation at discharge and they were all referred to a Cardiology appointment to assess indication for left atrial appendage closure (LAAC).

Discussion: Our aim with these 3 cases is to discuss the challenging clinical question of when to safely resume anticoagulation in patients with AF who had a hemorrhagic stroke. Although it might be considered in some patients, others may be angled for other strategies less likely to increase hemorrhagic risk and with reasonably similar effectiveness in

the prevention of embolic events, like LAAC. Some tools may help in taking the decision but may not be sensitive to other non-modifiable variables like imaging markers of increased risk of brain hemorrhagic complications.

PO 09

FROM STROKE OF BAD LUCK TO STROKE OF GOOD LUCK: A CASE OF SUCCESSFUL BA STENTING

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Introduction: Posterior circulation ischemic stroke accounts for a small percentage of all strokes, although its association with higher morbidity and mortality. Atherosclerotic disease of the basilar artery (BA) can cause recurrent transient ischemia. However, treatment approach to critically stenotic BA lesions is still controversial.
Case report: A 72-year-old man with hypertension, dyslipidemia, and obesity had a history of 2 hospitalizations in the past 6 months due to vertebrobasilar transient ischemic attacks related to a subocclusive atherosclerotic stenosis of the proximal BA. He was on dual antiplatelet therapy and optimized risk factor control. He was re-admitted for three episodes of transient vertical diplopia within 24 hours, related to orthostatic changes. Physical examination revealed left limb ataxia. Head CT revealed bilateral pontine ischemia, with stable BA stenosis on CT angiography. After a period of absolute rest and fluid therapy, he started progressive bed head elevation. While on 45º, he had an episode of dysarthria and disconjugate gaze that reverted after returning to 0º. Three hours later, while on 0º, he presented with decreased consciousness, disconjugate gaze, tetraparesis, dysarthria, and central facial palsy. He was transferred to the stroke unit and an MRI revealed acute bilateral thalamic ischemic lesions. Given the progressive clinical deterioration despite optimal medical therapy, endovascular treatment of basilar stenosis (angioplasty and stent) was successfully performed. He was discharged 1 week after the procedure with independent gait. Ten months later, he remains stable and asymptomatic.
Conclusion: BA stenting is a challenging procedure that can be useful in cases of severe BA stenosis presenting with recurrent attacks refractory to optimal medical therapy.

PO 10

ACUTE RECANALIZATION THERAPY IN ISCHEMIC STROKE DUE TO CERVICAL ARTERY DISSECTION: A REAL WORLD PROPENSITY SCORE-MATCHED STUDY IN A TERTIARY HOSPITAL

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Background: Cervical artery dissection (CAD) is a frequent cause of acute ischemic stroke (AIS) in the young. The role of acute recanalization therapies [i.e.thrombolysis (IVT), endovascular treatment (EVT)] in these patients is still unclear.
Objectives: to assess the impact of recanalization therapies on the outcome of patients with CAD.
Methods: patients with AIS due to CAD presenting to a tertiary hospital between 2015-2020 were included. Propensity-score matching [using age, time from symptom onset and NIHSS at presentation (NIHSSp)] was performed to minimize selection bias and obtain 2 cohorts for analysis: Cohort-1 for EVT (11 treated, 11 not treated) and Cohort-2 for IVT (13 treated, 13 not treated). Our primary outco-

me was 3-month modified Rankin scale of 0-2; logistic regression analysis was performed.

Results: cohorts were predominantly composed of males (Cohort-1: 72.7%; Cohort-2: 61.5%), median age was 22.0 years [interquartile range (IQ) 18.3-30.0] in Cohort-1 and 30.0 years (IQ 21.0-34.0) in Cohort-2. After matching, NIHSSp was still higher in the treated group in Cohort-1 (median 15.0 [IQ 7.5-16.5] vs 2.0 [1.0-4.0], p=0.02), and similar between groups in Cohort-2 (15.0 [6.0-20.0] vs 14.0 [9.0-21.0], p=0.09). Our primary outcome was achieved in 54.5% of patients in Cohort-1 and 57.7% in Cohort-2. After multivariate analysis adjusting for NIHSSp, neither EVT (p=0.34) nor IVT (p=0.79) were significantly associated with the primary outcome.

Conclusions: current expert consensus states that acute recanalization therapies should be considered in patients with AIS due to CAD. However, after minimization of selection bias our study suggests that they are not associated with good functional outcome in these patients. Given our small study sample and the inherent limitations, more research is needed.

PO 11

A CATASTROPHIC CASE OF ISCHEMIC STROKE WITH OCCLUSION OF FOUR LARGE VESSELS

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Introduction: Stroke is the main cause of death in Portugal, with ischemic stroke being the most common subtype. We need to bear in mind that an occlusion of 4 large vessels of the anterior circulation, if not addressed immediately, could result in significant loss of brain function and lead to a fatal outcome.

Clinical case: A 87 year-old female patient, with history of atrial fibrillation treated with rivaroxaban, mitral valve stenosis and arterial hypertension was admited to emergency department after being found with a left side hemiparesis. At admission, neurological examination revealed no verbal response, no spontaneous eye opening, motor response in flexion to pain and bilateral Babinski sign (NIHSS 24).

Cranial computed tomography scan (CT scan) showed no signs of acute ischemia (ASPECTS 10) but CT angiography revealed bilateral carotid artery stenosis with occlusion of the right internal carotid artery. Due to unknown anticoagulation status alteplase was not initiated and angiography confirmed occlusion of the M1 segment of the right middle cerebral artery (MCA), A2 segment of the right anterior cerebral artery (ACA), upper division of the left MCA and A1 segment of the left ACA. Thrombectomy of all four segments was performed, obtaining TICI 3 recanalization in the right MCA and left ACA and TICI 2b in the left MCA and right ACA.

After endovascular therapy the patient evolved with mutism and severe tetraparesis. A control CT scan was performed which showed multiple areas of infarction in the territory of ACA and MCA bilaterally and small hemorrhagic petechial componente.

A stroke of cardioembolic etiology was admitted, with an unfavorable outcome that culminated in the patient's death.

Conclusions: Since it is not common to approach the large vessels bilaterally at the same operative time, it is important to take into account the clinical findings and weigh the risk and

benefit. This approach was successfully achieved, but even so, as the patient was elderly and already had a low cognitive reserve, neurological recovery was not possible, ending up dying during hospitalization.

PO 12

ENDOVASCULAR MANAGEMENT OF TANDEM OCCLUSIONS IN ACUTE STROKE – RESULTS OF A TERTIARY CENTRE

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Background: Endovascular thrombectomy (EVT) is the standard of care for the treatment of anterior circulation large vessel occlusion strokes (LVOS). Nonetheless, the optimal strategy for the acute treatment of LVOS with simultaneous extracranial internal carotid artery (ICA) steno-occlusive disease (tandem lesions) remains challenging.
Objectives: To compare the clinical impact of performing balloon angioplasty (BA) versus stenting of the ICA in patients with tandem lesions submitted to EVT.
Methods: We reviewed data from all patients that were submitted to EVT due to anterior circulation LVOS, had steno-occlusive ICA disease, and were submitted to either ICA stenting or BA in the acute setting in our centre from January 2018 to February 2023. Primary outcomes were mortality rate (MR) and functional outcomes, defined according to the modified Rankin scale (mRS) in good (0-2) and poor (3-6).
Results: Stenting of the eICA was performed in forty-one patients and BA in 17. Doppler ultrasonography in the first 24h after EVT revealed re-occlusion and re-stenosis of the eICA in 41%(N=7) and 29%(N=5) of the angioplasty group, respectively, and re-occlusion in 14,6%(N=6) of the stenting group. During in-hospital stay, 2 patients died due to malignant infarct and cerebral haemorrhage in the BA group and 5 patients died in the stenting group, 3 due to cerebral hematomas. There were better outcomes in the stenting group (mRS 0–2) compared to BA (p=0.05) and the mortality did not differ between treatments (p=0.09).
Conclusion: Patients treated with stenting of the eICA showed less re-occlusion and re-stenosis rates of the ICA and better mRS scores when compared with patients that were submitted only to angioplasty. Mortality did not occur more frequently after stenting.

PO 14

STROKE IN THE ATLANTIC!

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Introduction: Madeira, the island of eternal spring, is known for being a tourist destination of excellence due to its temperate climate all year-round and is especially sought for its new year's eve. Its public hospital serves to a permanent population of around 250.000 habitants plus a considerable fluctuating population, which in the last year was of about 150.000.
Case report: A 68-year-old British woman was evacuated from a cruise ship 519km northeast of Madeira Island by a Portuguese Navy boat. She presented to Hospital Central do Funchal with left hemiparesis, left central facial paralysis and dysarthria, which had started 9 hours prior. Her medical history included hypertension, diabetes, chronic kidney disease, obesity and breast cancer. A CT angiography (CTA) revealed an occlusion of the

top of carotid artery and she underwent radial arterial access thrombectomy with successful recanalization after a single passage using a combined technique. During her stay in the hospital, the blood tests, the electrocardiogram and the transthoracic echocardiography were all unremarkable and the etiology of her ischaemic stroke remained unknown. After a few days of clinical and analytical improvement the patient was able to return to her country with only a mild left-sided hemiparesis.

Conclusion: Madeira has the particular condition of being a highly sought for insular destination capable of offering endovascular reperfusion therapies. In order to keep up with the increasing demands of stroke therapy, the island has to adapt to its unique reality and coordinate its air, land and sea resources for different types of assistance. In this case, such adaptation involved evacuating a patient in the middle of the ocean in a Navy boat, from a location that was further away than the distance between Lisbon and Oporto.

PO 15

FOOL ME ONCE, SHAME ON YOU; FOOL ME TWICE...

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Introduction: The search for stroke aetiology is of therapeutic value, allowing for proper secondary prevention and improving patient outcomes. Transthoracic (TTE) and transoesophageal echocardiography (TOE) are the go-to exams to rule out cardiac sources and should be repeated when such suspicion is high.

Case report: A 69-year-old man with a history of high blood pressure and epilepsy was admitted with right hemiparesis and dysarthria. CT angiography (CTA) revealed an occlusion of the left middle cerebral artery (MCA) and he underwent successful thrombectomy. The patient had an elevated C-reactive protein level and further tests to investigate the cause included an electrocardiogram that showed atrial fibrillation (AF) and a TTE which was unremarkable. He received a course of piperacillin-tazobactam for a suspected respiratory infection. The patient returned one day after being discharged with the same symptoms and CTA showed, once again, a left MCA occlusion. A second, also successful thrombectomy was performed. During this admission, further investigations were carried out including a TOE and a thoracoabdominopelvic CT scan, both of which were unremarkable. The patient returned two weeks later with worsening dysarthria and a repeat CT/CTA revealed recent bilateral cerebellar ischaemic infarcts and occlusion of both superior cerebellar arteries. Another TOE was performed and this time it showed the presence of vegetations consistent with infectious endocarditis of the aortic valve.

Conclusion: TOE is of paramount importance in the aetiological investigation of ischaemic strokes. However, a negative TOE result doesn't rule out endocarditis in patients with high probability, so a repeat TOE within 5-7 days is recommended according to the European Society of Cardiology Guidelines.

PO 16

ENDOVASCULAR MECHANICAL THROMBECTOMY BEYOND 12 HOURS OF STROKE ONSET – PATIENTS OUTCOME

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Background: Endovascular mechanical thrombectomy (MT) has become part of the standard-of-care of acute ischemic stroke in patients with large vessel occlusion. The benefit of treatment has also been shown in the extended time window, according to the DEFUSE-3 or DAWN eligibility criteria. For cases of stroke onset beyond 12 hours, we usually perform, at our institution, a Computed Tomography Perfusion (CTP), proceeding for the treatment with those with a mismatch ratio >1.8.

Objective: Analyze the outcome of patients who underwent MT for proximal anterior circulation acute ischemic stroke with onset beyond 12 hours.

Methods: Retrospective data analysis from all patients with proximal anterior circulation strokes, submitted to MT beyond ≥ 12 hours onset, with a mismatch ratio >1.8 in CTP studies, during a period of 6 months. The perfusion was obtained using the toggling table technique (Jog mode), covering 8 centimeters of brain tissue.

Results: From the 161 MT cases performed during the study period, 21 were ≥ 12 hours from stroke onset. Median age was 74, median National Institute of Health Stroke Scale score (NIHSS) at presentation was 16 and median Alberta Stroke Program Early CT Score (ASPECTS) was 8. Sixteen had successful recanalization, with a modified Thrombolysis in Cerebral Ischemia score (mTICI) ≥ 2B. All patients had a mRS ≤ 2 at baseline. At hospital discharge three had mRS 0-2, four had mRS 3, twelve had mRS 4-5 and two died (mRS 6). Thirteen showed a NIHSS improvement ≥ 4.

Conclusion: Thirty three percent achieved asymptomatic to moderate disability (n=7) and 57% (n=12) become functionally dependent at the time of hospital discharge. We demonstrated acceptable safety parameters, with no cases of intracranial hemorrhage and a mortality rate of 9% (n=2). Compared to initial NIHSS, 62% (n=13) had an improvement ≥ 4 points, which is associated with good functional outcome at 90 days. Despite results showing positive outcomes in a number of patients, fast workflow should be a priority. Time to treatment must remain a key focus, given its direct impact on patient outcome.

PO 17

TO TREAT OR NOT TO TREAT, THAT IS THE QUESTION – A DIFFICULT CASE OF VERTEBROBASILAR STROKE

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Background: Vertebrobasilar (VB) strokes account for about 20% of all strokes. Data shows worse outcomes when compared to anterior circulation strokes. The best treatment for basilar artery occlusion (BAO) remains controversial.

Clinical case: A 48-year-old woman with no past medical history was brought to a primary stroke centre with a fluctuating course of acute onset of right hemiparesis, dysarthria and right facial central palsy. At examination she scored 5/6 on the NIH Stroke Scale. Brain computed tomography (CT) scan and CT an-

giography had previously been performed in another hospital, revealing BAO. Doubt was raised regarding timing and aetiology of occlusion. Brain magnetic resonance showed bilateral lesions with restricted diffusion involving brainstem, cerebellar hemisphere and occipital cortex. It was decided to submit the patient to endovascular treatment (EVT). She underwent angiography with aspiration thrombectomy and stent placement for basilar stenosis. The procedure was complicated by multiple aspirations due to partial occlusions in the posterior vascular territory, followed by respiratory depression. She was admitted to the intensive care unit. Imaging reassessment showed multiple new acute ischaemic lesions. Her state continued to deteriorate and three days later brain death was declared.

Conclusions: This case illustrates the intricate decision between best medical treatment and EVT in VB strokes. To date studies showed inconsistent results. Particularities regarding posterior circulation make assessment and intervention more difficult. Prognostic factors namely neurological severity, infarct volume, collateral circulation, time from onset to treatment and core-penumbra mismatch have been used. Careful selection of optimal candidates is imperative for better outcomes.

PO 18

POSTERIOR STROKE AND INTRACRANIAL STENOSIS – A CASE OF NO INTERVENTION SUCCESS

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Woman, 87. Medical background of atherosclerotic disease, dyslipidaemia, hypothyroidism, incipient dementia, medicated accordingly. Patient presented with slurred speech and decreased right limbs strength. At admission the patient was awake, right gaze palsy; right facial paralysis; dysarthria; complete hemianopia; right hemiparesis with grade 2/5 muscle strength in the upper limb and grade 3/5 in the lower limb; right hemihypoesthesia: National Institutes of Health Stroke Scale of 15. No signs of acute ischemia or hematic densities on brain computed tomography (CT). CT angiography showed lower and middle third basilar artery occlusion with permeable top; occlusion of V2 and V3 segments of left vertebral artery with irregular filling of V1; stenosis of the left M1 segment and left posterior artery. The patient underwent a magnectic resonance (MRI) that showed acute ischemic bilateral lesion on the middle pons, involving the right parasagittal caudal pons. Assumed probable atherosclerotic aetiology and, given full clinical recovery after the MRI, no acute intervention was made. The patient was admitted for watchful waiting and antiplatelet therapy was started. She remained asymptomatic during the hospital stay and was dis-

charged home under antiplatelet and anticoagulation therapy for de novo atrial fibrillation diagnosis. This case highlights that sometimes no intervention is the best intervention.

PO 19

STENTING OR NOT STENTING – THE ACUTE PHASE QUESTION

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Background: Symptomatic intracranial atherosclerotic stenosis (sICAS) is responsible for about 10% of ischaemic strokes in Europe. In the past, sICAS was usually reported in older people, but increasingly young adults are seen affected. The optimal treatment for patients presenting with acute ischaemic events in this context is still undetermined, although recent studies have shown the benefit of endovascular treatment. The best timing for stenting is also controversial, mainly due to possible risks related to the need for antiplatelets in the hyperacute phase and the risk of stent thrombosis.
Clinical case: We present the case of a 47-year-old man, obese as the only vascular risk factor, who presented to the emergency department with sudden-onset of left-sided weakness and dysarthria (NIHSS 4). Non-contrast head CT was normal and the CT angiography showed right M1 occlusion. The patient received intravenous fibrinolysis and was taken for endovascular therapy. After a first complete recanalization with aspiration technique on the first pass, the artery showed an early reocclusion, leading to suspicion of vessel wall disease. Finally, a stent was placed and a TICI 2b was achieved. The patient had an excellent clinical outcome, with a NIHSS of 0 at discharge.
Conclusion: Intracranial stenosis is a rare cause of stroke in young people, but should be suspected when early artery reocclusion occurs during the thrombectomy, translating an underlying local inflammatory process. Careful patient selection and adequate medical treatment with antiplatelet drugs may improve the long-term clinical outcomes of hyperacute intracranial stenting.

PO 20

A REAL-WORLD CASE OF LEFT ATRIAL APPENDAGE CLOSURE VERSUS ANTICOAGULATION THERAPY FOR LONG-TERM PREVENTION OF ISCHEMIC STROKE

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Background: Stroke is one of the most devastating consequences of atrial fibrillation (AF). However, there is limited data on real-world efficacy of left atrial appendage closure (LAAC) compared to anticoagulants (AC) for stroke prevention among patients with AF. Cancer patients present unique challenges, due to concurrent medication and comorbidities, as well as individual frailty.
Clinical case: A 67-year-old woman with hypertension, dyslipidaemia and smoking habits was admitted to hospital with sudden aphasia and right homonymous hemianopsia. Brain CT angiogram disclosed an ischemic stroke in the left middle cerebral artery territory, with a corresponding M2 occlusion. ECG identified de novo AF. No acute reperfusion therapy was recommended. Anticoagulation was started for secondary stroke prevention.
A half year later she presented at the emergency department with massive gingivorrhagia. Severe thrombocytopenia was documented and AC was suspended. Subsequent studies lead to the diagnosis of myelodysplastic syndrome and 5-Azacytidine was started.

During this period AC was suspended due to high bleeding risk, though maintaining an elevated risk for cardioembolism. The case was discussed in a multidisciplinary "Brain-Heart" team and it was decided that, pending hematologic and hemodynamic stability, she was a possible candidate for LAAC.
After six chemotherapy cycles she was better and able to restart AC, however, too fragile to perform LAAC. In the seventh cycle, acute myeloid leukemia was documented, followed by death.
Conclusion: In this case we present a cancer patient with hematological dyscrasia and AF, with previous history of ischemic stroke and a complex vascular secondary prevention plan. Among high risk-AF patients literature shows that LAAC seems to be superior to AC in reducing cardiovascular mortality and major bleeding, with similar efficacy in stroke prevention. Integrated and individualized therapeutic plans are essential in these decisions, with close surveillance to monitor complications or alter strategies.

PO 22

INTRACRANIAL STENOSIS IN YOUNG PATIENTS – WHAT IS BENEATH THE SURFACE?

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Background: Intracranial artery stenosis is a rare cause of stroke, and it is usually related to atherosclerosis. However, in young patients, other diagnoses must be considered, which might influence treatment decisions.
Clinical case: We present the case of a 39-year-old man with a history of tobacco and drug abuse (cannabinoids), who presented to the emergency room with lightheadedness, dysarthria, and decreased muscle strength on the left side of his body with 1 hour duration. Neurological examination revealed confusion, left homonymous hemianopsia, dysarthria, left central facial paresis and left hemiplegia and hypoesthesia.
Computed tomography and CT angiography revealed a subtle left cortico-subcortical cerebellar hypodensity and pre-occlusive stenosis of the middle third of the basilar artery. The patient underwent intravenous thrombolysis, and endovascular treatment of the severe stenosis with acute stenting and balloon angioplasty, with significant improvement of the distal circulation.
The patient was admitted to the stroke unit, with no neurological deficits upon reevaluation. Subsequent clinical exams revealed positive cocaine levels. On the same day, he had uncooperative behavior, refusing medical care, and he left the hospital against medical advice. Considering his young age, positive cocaine levels and the isolated arterial lesion, we retrospectively considered that the etiology for this intracranial stenosis was a cocaine-induced vasospasm.
Conclusion: Toxic-induced artery vasospasm is a less prevalent cause of intracranial artery stenosis, however it should be considered in an emergency context, especially in young patients, as it has implications for its treatment and follow-up.

PO 23

SOMETHING WENT WRONG: ENDOVASCULAR MANAGEMENT OF SURGICAL COMPLICATIONS – TWO CASE REPORTS

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Background: Meningiomas and pituitary adenomas are among the most common intracranial tumors in adults, being included in the differential diagnosis of cranial base lesions, particularly in the sellar and perisellar regions. Although predominantly benign, they can still confer significant morbidity due to compression and dysfunction of adjacent structures. Surgical resection remains the mainstay of treatment for the majority of symptomatic lesions.

Methods/Objectives: The authors report two cases of patients with tumors centered on the anterior and middle cranial bases who underwent surgery, with endoscopic transsphenoidal excision and craniotomy, with associated vascular complications, addressed by an endovascular approach.

The aim of this work is to describe our endovascular experience in approaching these injuries and to demonstrate the potential of combined endovascular-surgical management.

Clinical cases: The first case corresponds to a 61-year-old male patient who presented with progressive visual loss. After the diagnosis of an extra-axial lesion centered on the sellar region with compression of the optic pathway, he underwent transsphenoidal surgery (meningioma, WHO grade 1) complicated by laceration of the A1 segment of the right anterior cerebral artery (ACA). An urgent angiographic procedure was performed with occlusion of this segment after confirming adequate patency of the anterior communicating artery.

In the second case, we present a 25-year-old male patient with classic symptoms of pituitary apoplexy, who underwent craniotomy for decompression and partial resection of the large lesion. He developed ischemia in the territory of both ACAs and, in the suspicion of severe vasospasm, urgent angiography with chemical and mechanical angioplasty was performed.

Conclusion: Although uncommon, there are life-threatening complications that can be adequately resolved by a minimally invasive endovascular method.

PO 24

CHARCOT-BOUCHARD ANEURYSMS: A MYSTERIOUS ENTITY

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Background: Chronic hypertension leads to lipohyalinosis of small penetrating branches affecting primarily the lenticulostriate arteries. Progressive weakening of these arteries can result in the formation of Charcot-Bourchard aneurysms, a controversial entity in the medical community as some authors doubt upon their existence and relation with intracerebral hemorrhage.

Objective: In this particular case, we report the existence of one of those aneurysms and their relation with hemorrhage, in a patient who, incidentally, does not have a previous recorded history of hypertension.

Clinical case: A 61-year-old caucasian female with known dyslipidemia presented to the emergency department with a worsening holocranial headache and vomiting. In the waiting room, the patient developed dysarthria and left hemiparesis, which lead to the activation of stroke code. Blood pressure was 144/89 mmHg. Emergency computed

tomography (CT) showed an acute intraparenchymal cerebral hemorrhage centered in the right external capsule with extension to the right corona radiata, right lateral ventricle, anterior horn of the left lateral ventricle and third ventricle. CT angiography (CTA) revealed an enhancing spot in the hematoma called spot-sign. Catheter angiography was performed and documented a distal dilation of the lenticulostriate artery, with a globoid morphology, 4 mm maximum diameter, indicative of a Charcot- Bouchard aneurysm.

Conclusion(s): Charcot-Bouchard aneurysms are rare entities that may go unnoticed if an incomplete study is made. We recommend that middle-aged patients presenting with striatocapsular hemorrhage with or without known history of hypertension should be studied with CTA and, even, catheter angiography to detect the presence of Charcot- Bouchard aneurysms.

PO 25

THE ROLE OF INTRACRANIAL VESSEL WALL IMAGING IN CEREBRAL AMYLOID ANGIOPATHY

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Background: Cerebral amyloid angiopathy (CAA) is characterized by amyloid-b deposition in the wall of small- to medium-sized blood vessels. A few recent series demonstrated that amyloid-b accumulation, with or without inflammation, can be associated with vessel wall enhancement (VWE) detected by vessel wall MRI (VWI). In addition to lobar hemorrhages, CAA is a known cause of ischemic stroke.

Clinical case: A 68-year-old man with an early onset of a vascular dementia in the context of probable CAA, under rivaroxaban due to prior thrombotic events secondary to immobility (mRankin 4), presented on the emergency department with right hemiparesis and recently marked cognitive deterioration.

Results: Head CT showed an acute left frontal perirolandic hemorrhage, global atrophy and multiple sequelae related to CAA. Brain MRI added a small right cerebellar acute ischemic lesion. Probable CAA was considered as the etiology of the hemorrhage, with possible synergistic contribution of hypocoagulation. Due to fast and persistent cognitive deterioration, atypical in the context of CAA, VWI was performed in the pursuit of inflammatory vasculopathy, which revealed concentric VWE in some distal arterial segments of the anterior and posterior circulation. MR angiography revealed no focal segmental stenosis.

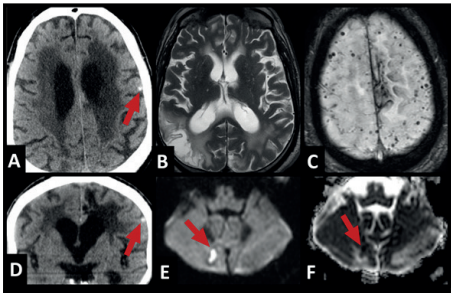

Figure 1 – A and D – Axial and coronal head CT with focal hyperdensity in left frontal precentral gyrus corresponding to hemorrhage, sequelae of multiple cortical vascular lesions (hemorrhagic/ischemic), severe microangiopathic leukoencephalopathy and global atrophy; **B** - Axial T2 with sequelae of a previous temporo-occipital vascular lesion, severe microangiopathic leukoencephalopathy and global atrophy; **C** - Axial SWI showing microhemorrhages and superficial siderosis; **E and F** - DWI and ADC map with diffusion restriction in the inferiomedial slope of the right cerebellar hemisphere, corresponding to acute infarction

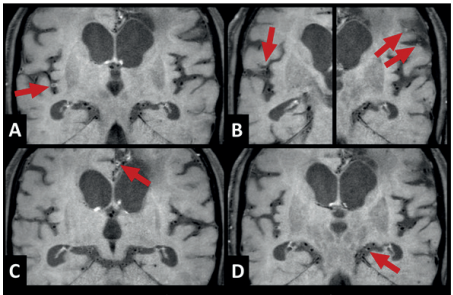

Figure 2 – Coronal oblique VWI (post-gadolinium 3D T1-weighted fast-spin-echo sequence with variable refocusing flip angle acquisition with inherent black-blood effect) shows concentric vessel wall enhancement in some distal arterial segments of the anterior and posterior circulation: **A** - right distal M2; **B** - bilateral M3; **C** - left A4; **D** - left P3

Conclusions: To our knowledge, only few cases reporting VWE in CAA have been published. The pathophysiology mechanism may be related to wall inflammation or amyloid-b deposition and it has been hypothesized that VWE might be associated with both acute and future strokes in patients with CAA. Hence, imaging techniques that highlight vessel wall pathology may have diagnostic and prognostic impact in those patients.

PO 26

UNMASKING PEDIATRIC MOYAMOYA DISEASE: CLINICAL, IMAGING AND GENETIC FEATURES OF PEDIATRIC ONSET

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Background: Pediatric Moyamoya disease (MMD) is a rare and progressive neurological disorder caused by non-inflammatory and non-atherosclerotic steno-occlusion of terminal internal carotid arteries and circle of Willis, with increased risk of stroke and hemorrhage.
Aim and methods: To review the clinical presentation, imaging features and genetic background of pediatric MMD cases, we queried a prospective registry of pediatric brain MRI studies in a tertiary center for keywords associated with MMD. Clinical data was collected from electronic charts.
Results: We identified 6 individuals diagnosed with MMD, of whom 4 were males (66%), with a median age of 9 years (interquartile range 5,5-14) at diagnosis. Symptomatic presentation was observed in 2 cases (33%) and included insidious dysgraphism in a 15-year old girl with acute and subacute ischemic lesions, and headaches in a 5-year old boy with a family history of MMD presenting bilateral confluent white matter lesions of presumed vascular origin. Both cases tested positive for mutations in the RNF213 gene, the main susceptibility gene in MMD. Conservative treatment with acetylsalicylic acid (ASA; 100mg/d) was initiated in both cases. Follow-up (FU) at two years revealed progression of steno-occlusive disease in the first case, prompting neurosurgical revascularization. Partial reversion of white matter lesions was observed in the second case, despite stable vascular configuration. The remaining 4 cases (66%) were asymptomatic at presentation and were diagnosed in MR angiography as part of Neurofibromatosis Type 1 (NF-1) work-up. One case developed transient ischemic attacks and was submitted to bilateral neurosurgical revascularization at 3 and 5 years FU. No treatment was initiated in the remaining asymptomatic cases.
Conclusion Our short series confirms the variable clinical presentation and genetic associations of pediatric MMD. Early diagnosis is essential to provide close monitoring and prompt treatment, from conservative antiplatelet therapy to neurosurgical revascularization.

PO 27

BEYOND M1 – PROMISING RESULTS OF MECHANICAL THROMBECTOMY IN M2 SEGMENT OCCLUSION

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Background: The management of patients presenting with stroke is under constant revision. Early mechanical thrombectomy trials focused on more accessible, larger vessel occlusions. Occlusion of the M2 segment of the medial cerebral artery was either excluded from, or undersampled in early trials. The benefit and indication of thrombectomy

in patients with occlusion of the M2 segment remains controversial.

Methods: We retrospectively analysed our database of patients with solitary occlusion of the M2 segment of the middle cerebral artery, undergoing mechanical thrombectomy between October 2017 and March 2023, collecting demographic, radiological, procedural and outcome data.

Results: We identified 128 patients meeting our inclusion criteria. The mean age of the patients was 72.09 ± 13.65 years, and there were 67 female patients. On admission, the average Alberta Stroke Program Early CT (ASPECT) score was 8.75 ± 1.36. The mean National Institutes of Health Stroke Scale score was 14.97 ± 5.59. The median time to recanalization was 37 min, and the average number of thrombectomy attempts was 2.20 (range 1-7). Radiological success, defined by a modified Thrombolysis in Cerebral Infarction Scale (mTICI) ≥2b, was achieved in 78.13% of patients. Radiological success in the first thrombectomy attempt was achieved in 44 patients (34.38%). Six patients (4.69%) had symptomatic intracranial haemorrhage on follow-up.

Conclusion: Our results were in line with data reported from other centres performing mechanical thrombectomy. We report promising results of successful reperfusion with a good safety profile in patients with M2 occlusion undergoing mechanical thrombectomy.

PO 28

SAVING A BRAIN: A CASE OF BILATERAL INTERNAL CAROTID ARTERY CRITICAL STENOSIS

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Background: Atherosclerotic disease of the internal carotid arteries is a common risk factor for stroke, specially when large or vulnerable plaques are present, but evidence-supported indications for intervention in asymptomatic carotid arteries are usually limited to the presence of a large plaque with hemodynamic repercussion.

We present a case report of a 64 years-old man with type 2 diabetes mellitus, hypertension, dyslipidemia and active smoking habits. Stroke code was activated for sudden onset speech difficulties and paresis of the upper right limb. At initial evaluation, despite mild neurologic improvement, paraphasias and right central facial paresis were still observed. CT scan showed multiple left hemispheric hypodensities and angio-CT revealed an occlusion of left internal carotid artery (ICA) and a severe bulbar stenosis of the right ICA due to the presence of an extensive atheromatous plaque with ulceration. He was immediately started on dual antiplatelet therapy and high potency statin. During hospitalization he recovered completely from neurologic deficits, and doppler ultrasound confirmed the carotid disease, with left ICA occlusion and a 80-90% stenosis of right ICA with inversion of the ophthalmic artery and attenuation of the

spectral curve of the right middle cerebral artery. MRI showed acute left frontoparietal lesions compatible with the acute stroke and hypoperfusion of both cerebral hemispheres. A cerebral angiography was performed and the right ICA was stented, with no further complications. The patient was discharged home on dual antiplatelet therapy for 6 weeks, as well as an outpatient clinic appointment to continue follow-up.

The approach of the presented case, related with the presence of a single patent cervical carotid artery with severe asymptomatic stenosis and contralateral occlusion and stroke, is controversial.

PO 29

CEREBRAL VENOUS SINUS THROMBOSIS – WHEN ANTICOAGULATION ALONE IS THE BEST ANSWER

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Cerebral venous sinus thrombosis (CVST) is an uncommon cause of stroke, more frequently in young women. Clinical presentation may vary from headache to seizures, focal deficits or other, and there are many known risk factors, such as oral contraceptives, pregnancy, puerperium, malignancy, infections or head injuries. Despite recent efforts to study the clinical use of mechanical thrombectomy in CVST, anticoagulation remains the standard of care. We report a case of an extensive cerebral venous thrombosis managed with anticoagulation alone.

A previously healthy 45-year-old female, who had recently quit smoking and was medicated with a combined oral contraceptive, started with right ear pain, followed by asthenia, nausea, vomiting, drowsiness and slowness for 2 days. On the 3rd day, she described dysarthria and decreased strength on her limbs. Medical examination revealed aphasia, mild dysarthria, right-sided hemiparesis and hemihypoesthesia. A computed tomography scan was performed, which revealed an extensive CVST, affecting the longitudinal, transversal and sigmoid sinus. Given the diagnosis, anticoagulant therapy was initiated and the patient was transferred to a tertiary medical center with experience in endovascular therapy. A cerebral magnetic resonance imaging excluded any parenchymal lesion but showed a slight cortical hyperintensity in DWI sequence. Notwithstanding the extension of the CVST and because a slight neurological improvement was noted, it was decided not to perform any endovascular therapy (ET) at that moment. The patient was admitted to the stroke unit, where anticoagulation was maintained. A week later, only a minor central facial palsy was noted ant the DWI hyperintensities disappeared.

In conclusion, CVST is a rare cause of stroke, and physicians need to be aware of the diagnosis, especially in young female patients. Although ET is an option to consider in extensive CVSTs, when brain parenchyma is spared and neurological improvement is seen early in disease course, standard medical therapy alone might result in an excellent clinical outcome.

PO 30

NAVIGATING THE VARIANTS OF THE INTERNAL CAROTID ARTERY: A PICTORIAL REVIEW FOR STROKE MANAGEMENT

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Background: Stroke is a leading cause of death and disability worldwide. Rapid diagnosis and appropriate intervention are crucial for better outcomes. Internal carotid artery (ICA) variants are not uncommon and can pose diagnostic and therapeutic challenges.
Objective: This pictorial review aims to summarize ICA variants, including epidemiology and associated clinical syndromes, and to discuss their relevance in stroke management, specifically, potential pitfalls and considerations for endovascular treatment planning.
Methods: We conducted a retrospective review of neuroimaging studies of patients with ICA variants. Cases included patients with a retropharyngeal course of the ICA, coiling, and kinking of the cervical ICA, aberrant course of the petrous segment of the ICA, duplication, agenesis, and hypoplasia of the ICA, dolichoectasia of the distal ICA, and persistent carotid-vertebrobasilar anastomoses. Clinical data and imaging findings were analyzed.
Results: Endovascular treatment success may be less likely in the presence of ICA tortuosity, which is more frequent in patients with underlying hypertension or atherosclerosis. In cases where the ICA takes a retropharyngeal course, there is an increased risk of hemorrhage during tracheal intubation. Duplication and aplasia may mimic or mask occlusion. During thrombectomy, persistent carotid-vertebrobasilar anastomosis serve as an alternative pathway to access the posterior circulation.
Conclusion: This study highlights the importance of identifying and characterizing ICA variations to avoid diagnostic errors, ensure optimal treatment planning, and improve patient outcomes.

PO 31

M4 MECHANICAL THROMBECTOMY – WHEN CLINICAL FINDINGS DICTATE THE TREATMENT

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Background: Large vessel occlusion (LVO) is a well-established indication for mechanical thrombectomy (MT). With advances in technology and improvement of endovascular devices, distal occlusions are presenting as a promising potential to MT.
Clinical cases: We present two cases of acute left M1 occlusions, submitted to endovascular treatment, recanalized after direct aspiration first pass technique, but with distal embolization to M4 segment – including the angular artery. In both patients M4 occlusions were also recanalized by direct aspiration, achieving TICI 3. The first one, is a 66 year-old woman, who developed an acute global aphasia, with right hemiparesis, during her stay at the hospital for bilateral pleural effusion, probably in a paraneoplastic context. ASPECTS 10 in the NC-CT scan and left M1 occlusion on the CT Angiography (CTA). The second one is a 65 year-old woman, with a previous medical history of colorectal cancer, admitted in the emergency department for sudden onset of aphasia and right hemiparesis. ASPECTS score 9, also with documented M1 occlusion on the CTA. Due to active neoplastic disease they both were not eligible for intravenous fibrinolysis. Both thrombectomies underwent without complications. The first patient des-

pite improving her neurological deficits in the first hours, including the language defect, suffered another embolic stroke, after 24 hours, again with left M1 and left A3 occlusions, also recanalized by endovascular approach - TICI 2b, but with progressive deterioration of her global clinical status. The second patient improved and on the third day was transferred to another department, with minor motor deficit and mild Broca aphasia.

Conclusion: Despite the risks involved, in selected patients, there is added benefit to distal mechanical thrombectomies, especially those with disabling deficits attributable to the occlusion.

PO 32

STROKE IN A YOUNG INDIAN PATIENT: WHEN THE INVESTIGATION LEADS TO A HAZY CONCLUSION

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Stroke in young adults is uncommon and rare etiologies are more frequent in this age group. This makes the diagnosis especially challenging. A 29-year-old right-handed Indian man, with heavy ethanolic, smoking and toxyphilic habits, was admitted to the Emergency Department with sudden onset of slurred speech, right body numbness and right-sided weakness, that started three days earlier. On neurological examination speech fluency loss, right limb paresis and right hemiface hyposthesia were observed. CT brain revealed subacute left lenticulostriated artery infarct and CT angiography showed distal left internal carotid artery (ICA) occlusion with Moyamoya-like pattern. Magnetic Resonance Imaging revealed small acute ischemic foci involving perforating middle cerebral artery territory and deep and cortical border zones in the left cerebral hemisphere. Stroke workup revealed weak positive lupus anticoagulant, normal lipid profile; slight hyperproteinorachia and interatrial communication on transesophageal echocardiography. Cerebral angiography revealed terminal left ICA occlusion, without aspects of previous carotid dissection, atherosclerosis or Moyamoya-like pattern. Hypoperfusion was assumed as the cause of stroke in the context of a progressive vasculopathy of indeterminate etiology. The patient recovered completely and was discharged under simple antiplatelet with strict lifestyle changes recommendations. Neurosurgical revascularization and leptomeningeal biopsy were proposed.

This case illustrates the complexity of young adult's stroke study and the importance of a comprehensive approach. Even after a complete workup the diagnosis may be unclear and long term follow-up is crucial for stroke recurrence prevention.

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