institution to study the process of patient preparation in the angiography suite immediately prior to thrombectomy by analyzing video recordings of the angiography suite. We now seek to further characterize this process to identify factors that may be targets for improved process efficiency.

Methods Retrospective analysis of videos recorded during emergent mechanical thrombectomies was performed from the time of patient arrival to the angiography suite until procedure start. The tasks performed were recorded and time-stamped. Recorded tasks included items such as patient examination, intubation, vascular line placement, urinary catheter placement, groin prep, draping, and equipment table setup. The main outcome was the time of patient arrival in the angiography suite to skin puncture (angio-to-groin). The number of tasks performed, time to starting individual tasks, duration of individual tasks, and overall door-to-angio times were correlated with angio-to-groin times.

Results Data from 57 consecutive thrombectomy cases were analyzed. The included cases comprised 33 transfers from another institution, 12 emergency room presentations, and 12 inpatient strokes. There was no difference in mean angio-to-groin time between transfer, ED, and inpatient cases (p = 0.2). The mean door-to-angio time was 62.4 +/- 35.3 min, while the mean angio-to-groin time was 16.2 +/- 8.63 min. There was no correlation between door-to-angio and angio-to-groin times. Cases that omitted at least one major task had significantly shorter angio-to-groin times (p = 0.03). Specifically, the omission of patient examination, intubation, and vascular line placement led to shorter angio-to-groin times (p = 0.04, p = 0.02, p = 0.02, respectively). Shorter times to starting vascular line placement, urinary catheter placement, and patient draping correlated with shorter angio-to-groin times (R² = 0.53 R² = 0.47, and R² = 0.72, respectively). There was no correlation between angio-to-groin times, suggesting that a focus on improving the efficiency of patient preparation in the angiography suite can help reduce overall door-to-recanalization times.

Conclusions This novel analysis of the patient preparation process during emergency thrombectomy identified several factors associated with overall angio-to-groin times, including the overall number of tasks performed, specific tasks such as patient examination, intubation, and vascular line placement, and the time to starting specific tasks, such as puncture site preparation, urinary catheter placement, and patient draping. Importantly, door-to-angio times do not correlate with angio-to-groin times, suggesting that a focus on improving the efficiency of patient preparation in the angiography suite can help reduce overall door-to-recanalization times.

Disclosures A. Donnelly: None. S. Abdelmaged: None. B. Jahromi: None. M. Potts: None.

Introduction Propranolol is a non-selective blocker of the β-adrenergic receptor and has been used for treatment of proliferative infantile hemangiomas. The vasoconstrictive and antiangiogenic effects of propranolol led us to explore its potential application for the treatment of AVMs.

Methods AVM tissue was cultured after surgical resection in the presence of 100μM propranolol or solvent DMSO. After incubation for 72 hours, tissue was harvested for testing. The expression levels of SDF1α, CXCR4, VEGF and HIF-1 was measured by rt-PCR. Furthermore, data of patients in 2 vascular centres harboring AVM was retrospectively interrogated for a time period of 20 years. The database included information about hemorrhage, AVM size and antihypertensive medication. Descriptive analyses were performed, focusing on the risk of hemorrhage, size of the lesion at presentation and clinical follow-up in patients on β-blocker medication versus those who were not.

Results Among 483 patients, 73 (15%) were under β-blocker treatment. 48% AVMs presented with hemorrhage at diagnosis. Patients under β-blocker treatment had a lower risk of hemorrhage at the time of diagnosis in a univariate analysis (p<0.0001; OR 13). Patients under β-blocker treatment showed a significant higher chance for a lower Spetzler-Martin grade ≤III (p<0.0001; OR 6.5) and a lower risk for the presence of an associated aneurysm (p<0.0001; OR 3.6). Multivariate analysis including Spetzler-Martin Grading, young age ≤ 50, presence of associated aneurysm and β-blocker treatment showed reduced risk for hemorrhage under β-blocker treatment (p<0.01, OR 0.2). The expression of CXCR4 was suppressed by propranolol most likely through the HIF-1 pathways. The gene expression of vasculogenesis factors was decreased in with propranolol incubated AVMs.

Conclusion β-Blocker medication seems to be associated with a decreased risk of AVM-related hemorrhage and AVM-size at presentation or during follow-up. Propranolol inhibits SDF1α-induced vasculogenesis by suppressing the expression of CXCR4 most likely through the HIF-1 pathways. Therefore, SDF1α/CXCR4 axis plays an important role in the vasculogenesis and migration of inflammatory cells in AVM lesions.


E-234 A PREDICTIVE MODEL AND GUIDE TO PATIENT SELECTION IN VERTEBRAL OSTEOEDEMATOUS/DISCITIS

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Introduction Interventionalists are often requested to perform percutaneous biopsies for vertebral osteomyelitis/discitis. However, there have been few prior attempts to stratify patients for maximal technical success and no attempt to analyze the whether these results affect patient care. This work both develops a predictive model to stratify the likelihood of a technically successful biopsy (ie, a biopsy culture growing one or more organisms), and also identifies which biopsies will change clinical management (ie, changes in final diagnosis).