responsive to aspirin. Using whole blood aggregometry on patients receiving a cerebrovascular stent, the optimal electrical impedance value was identified as ≤ 1 ohm (sensitivity 71.43%, specificity 74.42%, area under the curve 0.82) for clopidogrel hyper-responders. Of the 16 patients who had an impedance aggregometer value of 0–1 ohms for clopidogrel response, 5 (31.3%) of them developed a hematoma, while only 2 (6.7%) out of the 30 patients who had an aggregometer value of >2 ohms developed a hematoma. This association was found to be statistically significant ($p=0.016$).

Conclusion Dual anti-platelet therapy is an important part of the treatment regimen in any patient who receives a cerebrovascular stent, but there are variations in patient response to these medications. Our study suggests that patients who have an increased response to clopidogrel may be at a higher risk of developing hemorrhagic complications.

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EYE ON THE PRIZE: TRANS-OPHTHALMIC ARTERIAL EMBOLIZATIONS OF ANTERIOR CRANIAL FOSSA DURAL ARTERIOVENOUS FISTULAE

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Introduction Anterior cranial fossa dural arteriovenous fistulas (dAVFs) represent up to 10% of all dAVFs and have traditionally been treated surgically. These lesions derive their arterial supply from the bilateral anterior ethmoidal arteries (ophthalmic artery branches) in nearly all cases. Embolization via the ophthalmic artery poses unique technical challenges due to its small caliber and risk of vision loss. To date, there is a paucity of literature regarding the safety and efficacy of performing endovascular embolizations via the ophthalmic artery. Advances in endovascular therapy, including highly trackable microcatheters and balloon microcatheters, offer the potential for safe and successful embolization via the ophthalmic artery. Here we describe our experience of anterior cranial fossa dAVF treatment by endovascular embolization via the ophthalmic artery.

Materials and Methods We conducted a retrospective cohort study of consecutive patients with anterior cranial fossa dAVF treated by ophthalmic artery embolization at two neurovascular centers from 2012 to 2020. Primary outcome was angiographic cure of the dAVF. Secondary outcome measures included vision loss, modified Rankin Scale at 90-days, mortality, and any other iatrogenic treatment complications.

Results 10 patients met inclusion criteria, which included 8 male and 2 females. Mean patient age was 61.9 (SD 8.0) years. DAVF Cognard grades were: II (1 patient), III (5 patients), and IV (4 patients). 4 patients presented with cerebral hemorrhage due to the dAVF. 6 patients presented with headache, aphasia, amaurosis fugax, or were asymptomatic and incidentally discovered. The most commonly embolized arterial feeding vessels were the anterior and posterior ethmoidal arteries ($n=8$) and the recurrent meningeal artery ($n=2$). Embolysates included Onyx (8 cases), nBCA glue (1 case), and a combination of coils and Onyx (1 case). 4 cases were performed with balloon microcatheters.

Complete dAVF cure was achieved in 9 patients (90%). Two patients had delayed washout of the ophthalmic artery after embolization which was treated with aspirin without subsequent visual defect. No patients experienced vision loss, death, or permanent disability. One patient experienced a minor complication of blurry vision in the left hemi-field suggestive of posterior ischemic optic neuropathy. 90 day mRS was 0 (7 patients), 1 (2 patients), and not yet available for one patient.

Conclusions Anterior cranial fossa dAVF embolization can be safely performed through the ophthalmic artery with high angiographic cure rates and a low risk of vision loss or other complications.

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ENVIRONMENTAL SUSTAINABILITY IN NEUROINTERVENTIONAL PROCEDURES: A WASTE AUDIT

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Purpose Operating rooms contribute between 20–70% of hospital waste. This study aimed to evaluate the waste burden of neurointerventional procedures performed in a Radiology department, to identify areas for waste reduction and to motivate new greening initiatives.

Materials and Methods We performed a waste audit of 17 neurointerventional procedures at a tertiary-referral centre over a 3 month period (November 2019 to January 2020). Waste was categorised into five streams: general waste, clinical waste, recyclable plastics, recyclable paper and sharps. Our radiology department started recycling soft plastic from 13 December 2019. Hence, an additional recyclable soft plastic waste stream was added. The weight of each waste stream was measured using a digital weighing scale.

Results We measured the waste from seven cerebral digital subtraction angiograms (DSA), six endovascular clot retrievals (ECR), two aneurysm coiling procedures, one coiling with tumour embolisation and one dural arteriovenous fistula embolisation procedure. Seventeen procedures generated 135.3 kg of waste in total: 85.5 kg (63.2%) clinical waste, 28.0 kg (20.7%) general waste, 14.7 kg (10.9%) recyclable paper, 3.5 kg (2.6%) recyclable plastic, 2.2 kg (1.6%) recyclable soft plastic and 1.4 kg (1.0%) of sharps. An average of 8.0 kg of waste was generated per case. Coiling cases produced the greatest waste burden (13.1 kg), followed by embolisation (10.3 kg), ECR (8.8 kg) and DSA procedures (5.1 kg).

Conclusion Neurointerventional procedures generate a substantial amount of waste. Green practices such as engaging with suppliers to revise procedure packs and reduce packaging, digitising paper instructions, opening devices only when necessary, implementing additional recycling programs and