Introduction Idiopathic Normal Pressure Hydrocephalus (NPH) is a reversible form of dementia typically treated with ventriculo-peritoneal shunt surgery. Recently we have described the first percutaneous transfemoral transvenous deployment of an endovascular CSF shunt (eShunt® System; CereVasc, Inc., Auburndale, MA, USA) to treat communicating hydrocephalus.
Aim of Study We sought to evaluate the response of NPH to endovascular eShunt implant deployment in an initial multicenter clinical pilot trial using gait, bladder and cognitive outcome measures.
Methods Patients were included after demonstrating >20% gait improvement in lumbar drainage trial. Gait was assessed using Timed Up & Go (TUG) test, cognition using Montreal cognitive assessment (MoCA), and urinary incontinence using Neurogenic Bladder Symptom Score (NBSS). Results were normalized per-patient to pre-treatment scores. A composite outcome score (COS) incorporating TUG/MOCA/NBSS was computed.
Results Eleven patients (4 female; mean age 74.8+/-4.2 years) underwent successful eShunt placement. Follow-up data showed significant improvement in gait by 35.4% at 30-days (n=6, P<0.003), 24.8% at 90-days (n=6, p<0.03) and by 32.8% at 180-days (n=4, p<0.01) compared to baseline. MOCA and NBSS showed significant improvements at 30-days and the COS was significantly improved at all time points (p<0.005 at 30-, 90- and 180-days). No procedural/delayed hemorrhage or unexpected readmissions were encountered during this early follow-up phase.
Conclusion In elderly patients affected by NPH and its insidious effect on mobility, cognition and urinary continence, these results show that the endovascular eShunt implant can be safely deployed with a favorable risk profile and with rapid and sustained improvements in functional outcome scores.
Disclosure of Interest A. Malek and C. Heilman are co-founders, shareholders, investors and consultants

P118/214 NEW IMAGE TRANSMITTING SYSTEM WITH STROKE FAST TRACK FOR INTERHOSPITAL TRANSFER IN KOREA

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Introduction Patients with acute ischemic stroke (AIS) who require endovascular thrombectomy (EVT) will be transferred from Primary-community-Stroke-Center (PSC) to Thrombectomy-capable-Stroke-Center (TSC). The medical records including images at PSC are copied and delivered through the patient, and TSC doctors make decisions after the patient visits, which delays starting EVT.
Aim of Study We report the “Stroke Fast Track’ system, which could bypass the medical data delivery process.
Methods “Stroke Fast Track’ launched in March 2019. It allows medical records, including images taken at PSC, to be transmitted before the patient arrives at TSC. If the Stroke Fast Track is not used, the patient follows the previous transfer methods. TSC’s stroke physicians can check images before a patient arrives, plan a treatment plan, including whether EVT is performed or not.
Results From March 2019 to August 2022, a total of 138 patients (age, 67.4±15.1; male, 58.7%) were transferred. Among them, 31.9% used the Stroke Fast Track. Transportation time took median 52 minutes by ambulance. EVT was performed on 19 patients (13.8%) at the TSC, which took a median duration of 183 min, composed of 85 min at PSC, 48 min for transportation, and 50 min at TSC. The average door-to-puncture time of the patients who used Stroke Fast Track and those who did not were 53 minutes and 100 minutes, respectively.
Conclusion The Stroke Fast Track system, which can transmit medical data directly and non-face-to-face before arriving at the TSC, is feasible and can be utilized to shorten the start of EVT.
Disclosure of Interest Nothing to disclose

P119/215 3D PRINTED SKULL MODEL WITH STONE POWDER – ENDOVASCULAR TRAINING WITH REALISTIC APPEARANCE IN DSA AND CT

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Introduction 3D-printed vessel trees with intracranial aneurysms (IA) are regularly used for angiographic training of neuroradiologists in endovascular therapies. The anatomically correct orientation is often lost. The actual surrounding skull bone is missing, which in part decisively influences the X-ray visibility of the IAs.

Aim of Study: Create a 3D-printed skull model with a realistic appearance in DSA and CT with correct anatomical alignment.
Methods A skull model is printed from a computed tomography (CT) scan of a skull specimen. The passage of the ACI is modified to accommodate different vascular anatomies and aneurysms. We use a 50% gravimetric stone powder PLA filament with a density of 1.7 g/cm³. Comparable volume images are produced in CT and Angiography-Unit (AU). Representative two-dimensional radiographs are taken in the AU. All images are compared by the optical impression, dose applied and by the Hounsfield units (HU).
Results The overall imaging appearance and dose of the printed model is very similar to that of the real skull on X-ray (0.090 vs 0.091 dGy*cm*cm). On CT, the average HU value of the printed material is 241 compared to 293 for the specimen.
Conclusion We created a 3D printed skull model using a filament with a high content of stone powder. From an angiographic point of view, it is equivalent to a real skull. With minor adjustments to the skull anatomy and the addition of printed vessels, it is possible to create an anatomically correct model that appears realistic on imaging for training and validation purposes.
Disclosure of Interest Nothing to disclose.