operator maneuvers of ±4%. Compared to the virtual deployment, the velocity variations are up to 10%.
Conclusion We developed a method that applies to a real deployment of high wire density stent and shows high sensitivity. These findings could be applied to real cases and used to develop new neurovascular devices.
Disclosure of Interest Paolo Machi, Congress President, Consultant for Medtronic, Stryker and Microvention

P129/327 UNIFIED CEREBRAL ARTERY SEGMENTATION ON CT, MRI AND 3DRA USING ENSEMBLE DEEP LEARNING

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Introduction 3D visualization of cerebral arteries allows better detection and analysis of neurovascular diseases. While deep learning (DL) models enable automatic segmentation of cerebral arteries on CT, MRI and 3DRA independently, they have mostly been developed to process one imaging modality. This may limit the reproducibility and comparability of arteries segmented on different imaging modalities that a patient may undergo during follow-up.
Aim of Study To evaluate whether a unified ensemble DL model, trained on CT, MRI, and 3DRA, improves (i) the segmentation reproducibility between imaging modalities and (ii) the segmentation quality for each modality.
Methods We developed an ensemble of DL models to segment cerebral arteries on CT, MRI, and 3DRA independent of imaging modality. We trained this model on a large dataset of CT, MRI, and 3DRA whose arteries had been manually segmented by a neuroradiologist. The model was prospectively evaluated on a dataset of 50 patients with matched CT, MRI and 3DRA. We compared the segmentation quality of this unified ensemble model with models trained to segment only one image modality (CT, MRI or 3DRA).
Results The unified ensemble DL model improved segmentation reproducibility between the different imaging modalities compared to models trained for on a single image type. It also offers finer segmentation of cerebral arteries on CT compared to a simpler model trained only on that modality.
Conclusion A unified ensemble DL model allows for better quality and reproducibility of cerebral arteries segmentation on different imaging modalities, which may improve comparability in follow-up imaging.
Disclosure of Interest Nothing to disclose

P130/184 IMPROVING DOOR TO GROIN PUNCTURE TIME USING AI IN A HUB-AND-SPOKE NETWORK

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Introduction The outcome of stroke patients is time dependent 1, and stroke networks aim to minimize treatment times, especially the Door to Groin Puncture time (DGPT)2. AI-assisted care coordination for Large Vessel Occlusion (LVO) stroke may be one approach to improving patient workflow 3, but there is a limited evaluation of its impact in Italy.
Aim of Study To assess the effect of AI implementation on the median DGPT in a hub-and-spoke network.4 5
Methods We implemented an AI-based system (Viz LVO/CTP, Viz.ai, Inc.)6 in the hub7 of a hub-and-spoke network in Southern Italy (A.O.U. Federico II, Naples)7. This AI-based system provides a stroke team pre-alert and alert for suspected LVO detection, automatic CT perfusion processing, and in-app communication. We collected DGPT7 4 5 and performed a retrospective analysis of two cohorts: pre-AI from February 18, 2021 to June 7, 2022, and post-AI from June 12, 2022 to December 27, 2022. Suspected stroke patients arrive directly to the CT room for neurological evaluation with subsequent transfer to the almost adjacent angiography suite if necessary.
Results A total of 98 consecutive patients (52 males and 46 females) were included: 46 in the pre-AI and 52 in the post-AI cohorts. The median DGPT was improved by 14 minutes after AI implementation (19 minutes post-AI vs 33 minutes pre-AI, $p<0.0001$ by the Mann-Whitney U test).
Conclusion The introduction of an AI-based system improved patient workflow by lowering the DGPT in an Italian hub-and-spoke system.
Disclosure of Interest Nothing to disclose.

2.2 ISCHEMIC – Imaging

P131/196 COMPARISON OF ACCURACY OF CT PERFUSION SOFTWARE PACKAGES IN PATIENTS WITH ACUTE ISCHEMIC STROKE. CAN WE GET CLOSER TO THE CORE?

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Introduction CT Perfusion (CTP) can improve diagnostic accuracy and support decision making in patients with acute ischemic stroke (AIS). The usability of CTP software packages is still limited by unreliability of results.
Aim of Study To compare core volumes estimate by Cercare Stroke (CP) and syngo.via (SV) with the core volumes segmented on non-contrast CT-scans.
Methods We selected patients with AIS with M1 occlusion having undergone thrombectomy with TICI 3 result in our clinic. CTP datasets were post-processed by CP and SV. Default settings were used for CP and three different settings for SV: default setting (A), additional smoothing (B) and adjusted settings (C). The results were compared to the core volume semi-automatically segmented in follow-up non-contrast CT. Agreement with the core volume was assessed using the intraclass coefficient (ICC) and the Mann-Whitney-U-test (MWU).