

computed tomography. The new detectors calculate the energy of every single photon and provide CT Data with high spatial resolution without electric noise at lower radiation dose. This CT-imaging evolution has several advantages for neuroimaging. Here we focus on intracranial and extracranial implants such as stents and coils.

Aim of Study To visualize endovascular intracranial and cervical implants with Photon Counting Computed Tomography.

Methods Ultra-high resolution CT-Angiography and native head CT as well as spectral reconstruction after placement of neuro-endovascular implants.

Results The imaging of the implants is very precise and reliable.

Conclusion The results of the imaging of neuro-endovascular implants are precise and reliable. The UHR CT-angiography and spectral reconstructions might be beneficial to monitor treatment success.

Disclosure of Interest no.

P157 DOSE COMPARISON OF CT IN ANGIO SUITE AND CT PHOTON – COUNTING

Niki Papadopoulou, Zsolt Kulcsár, Tilman Schubert. *Neuroradiology, Zurich, Switzerland*

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Introduction The possibility of applying a CT scan during the operation enables the surgeon to control the positioning of the implants. The postoperative control of the implants with the photon counting technology gives the opportunity for a very precise imaging. These two techniques deliver a quite different dose to the patient.

Aim of Study With this abstract, we would be able to see the relation between the doses of these two techniques in the same patient

Methods Comparing the dose reports of the same patient with these two different CTs, first in the Angio suite and the second as post-OP. Comparing the image quality of these methods.

Results The results of the imaging of neuro-endovascular implants are from both techniques reliable. The PCCT-angiography has a higher radiation dose but is also beneficial to monitor treatment success.

Conclusion The CT in the Angio suite gives an immediate and accurate first impression of the surgery, despite of the lower dose.

Disclosure of Interest no.

3.1. Innovation

P158 ENDOSCOPIC-ASSISTED MICROVASCULAR DECOMPRESSION FOR HEMIFACIAL SPASMS ASSOCIATED WITH VERTEBROBASILAR DOLICHOECTASIA: A META-ANALYSIS

¹John Emmanuel Torio, ²Vince Albert Buenviaje. ¹UERM Hospital, Quezon City, Metro Manila, Philippines; ²UERM College of Medicine, Quezon City, Metro Manila, Philippines

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Introduction HFS primarily attributed to neurovascular compression at the root exit zone (REZ) of the CNVII, presents significant challenges in diagnosis and management. While

Microscopic MVD remains gold standard treatment, its efficacy in cases involving vertebrobasilar dolichoectasia (VBD) is less explored.

Aim of Study This systematic review aims to evaluate the safety and efficacy of endoscopic-assisted MVD (E-MVD) specifically in HFS secondary to VBD.

Methods A comprehensive search done using MeSH keywords ‘Endoscopic’, ‘Microvascular Decompression’, ‘Vertebral Artery’, ‘Hemifacial spasm’, across multiple databases. Following PRISMA guidelines we identified six studies comprising 69 patients.

Results Mean age was 53.63 years with female predominance. E-MVD demonstrated an 84.06% complete resolution rate, with partial resolution in 8.70% and no relief in 7.25% of cases. Transient facial palsy was the primary postoperative complication. Following factors poses increased risk for comorbidities/post-operative complications: age \geq 60 years old (4.2500), male (1.1905), AICA involvement (3.7037) and left sided involvement (1.5750).

Comparison with traditional microscopic MVD reveals comparable success rates, with E-MVD offering enhanced visualization and potential reductions in complications. Challenges related to vertebral artery involvement and complex compression patterns are addressed more effectively with endoscopic techniques.

Conclusion E-MVD presents a promising alternative for managing HFS secondary to VBD, offering high success rates and potential reductions in complications compared to traditional approaches. Continued research efforts and surgeon training are essential to optimize outcomes and refine techniques in the evolving field of endoscopic neurosurgery.

Disclosure of Interest no.

P159 CLOTILD® A SMART GUIDEWIRE SENSING CLOT CHARACTERISTICS DURING EVT – RESULTS FROM THE CLOT OUT STUDY

¹Hal Rice, ²Aymeric Rouchaud, ^{3,4}Nathan Manning, ¹Laetitia de Villiers, ²G eraud Forestier, ¹Vinicius Do Nascimento, ²Suzana Saleme, ⁵Julie Lafaurie, ⁵Joachim Rambeau, ⁵Franz Bozsak, ^{4,6}Dennis Cordato, ^{3,4}Andrew Cheung. ¹Gold Coast University Hospital, Department of Neurointervention, Southport, Australia; ²University Hospital Centre of Limoges, Interventional Neuroradiology, Limoges, France; ³Liverpool Hospital, Department of Neurointervention, Liverpool, Australia; ⁴Ingham Institute for Applied Medical Research, Liverpool, Australia; ⁵Sensome, Massy, France; ⁶Liverpool Hospital, Department of Neurology and Neurophysiology, Liverpool, Australia

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Introduction Mechanical thrombectomy has revolutionized the treatment of large-vessel ischemic stroke. In-situ thrombus features, such as thrombus composition, length and the resulting mechanical properties play a critical role in the success of endovascular treatment.

Aim of Study Sensome has developed the Clotild® Smart Guidewire System (CSGS), a 0.014” neurovascular guidewire integrating an impedance micro-sensor in its distal part, allowing to probe the impedance properties of the occlusion causing the ischemic stroke during endovascular treatment. These properties can be analyzed using machine-learning algorithms with the aim to determine in-situ thrombus features. The CLOT OUT Study aims to evaluate the safety and ability of CSGS to provide impedance measurements.

Methods In this single arm, prospective, multi-center first-in-human study the Clotild® Smart Guidewire was used for

impedance measurements before any thrombectomy pass in subjects presenting with AIS due to an occlusion with origin in the M1 and eligible for EVT. After EVT, the composition of retrieved thrombi was analyzed using Martius-Scarlett Blue and CD42b stains. Primary and secondary endpoints concern the safety of CSGS and the correlation of impedance measurements with expert and histological analysis. The study is controlled by an independent Data Safety Monitoring Board and supported by centralized histology and imaging core-labs.

Results Enrolment has been completed at 40 patients. There were no serious adverse events related to CSGS among the evaluated patients. A preliminary analysis demonstrates the feasibility to interpret the acquired impedance signals to determine in-situ thrombus features using predictive models.

Conclusion We will provide results from the final analysis at ESMINT 2024.

Disclosure of Interest yes Julie Lafaurie-Janvore, Joachim Rambeau, Franz Bozsak are employees of Sensome.

P160 INNOVATIVE REDUCTION IN RADIATION DOSE FOR DIAGNOSTIC CEREBRAL ANGIOGRAPHY: THE EFFICACY OF OPTIQ WITH IQ36

¹Bum-Soo Kim, ²Woochul Cho, ²Jai Ho Choi, ²Yong Sam Shin. ¹Seoul St.Mary's Hospital, Department of Radiology, Seoul, South Korea; ²Seoul St.Mary's Hospital, Department of Neurosurgery, Seoul, South Korea

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Introduction The OPTIQ, an advanced 2D imaging pipeline, automatically adjusts exposure parameters to maintain predefined image quality during cerebral angiography while aiming to reduce radiation dose.

Aim of Study This study evaluates the efficacy of OPTIQ in diminishing radiation exposure without compromising image quality in low-dose diagnostic cerebral angiography.

Methods We conducted a retrospective analysis of 2D diagnostic cerebral angiography data from 100 patients (68 female, 32 male; median age 58, range 31–80 years) assessed for intracranial aneurysms. Image quality was compared between 50 patients using conventional settings and 50 using OPTIQ with an Image Quality level of 36 (IQ36), evaluated by two blinded neurointerventionists on a four-point scale across four regions. Noninferiority in image quality and reductions in radiation dose were statistically analyzed using dose-area product (DAP) and air kerma (AK) measurements.

Results The OPTIQ group demonstrated noninferior image quality (Reader 1: 3.50 ± 0.38 ; Reader 2: 3.70 ± 0.26) compared to the conventional group (Reader 1: 3.53 ± 0.37 ; Reader 2: 3.78 ± 0.19). Interrater reliability was established with a Cronbach's alpha of 0.835. DAP and AK for 2D DSA in anteroposterior and lateral views were significantly lower in the OPTIQ group ($1.94 \text{ Gy}\cdot\text{cm}^2$ and 0.012 Gy , respectively) compared to the conventional group ($5.28 \text{ Gy}\cdot\text{cm}^2$ and 0.031 Gy , respectively), marking a dose reduction of 63.26% for DAP and 60.25% for AK.

Conclusion OPTIQ with IQ36 significantly reduces radiation exposure by approximately 60-63% during 2D diagnostic cerebral angiography without compromising image quality, enhancing procedural safety.

Disclosure of Interest no.

P161 FIRST EVALUATION OF A NEW RADIATION PROTECTION EQUIPMENT DEDICATED TO INTERVENTIONAL NEURORADIOLOGY

¹Johanna Jouhans, ¹Luis Ammour, ²Pierre-Marie Lagarde, ^{1,3}Hubert Desal. ¹Nantes Université, CHU Nantes, Nantes, France; ²CHU Nantes, Nantes, France; ³L'institut du thorax, UMR 1087, Nantes, France

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Introduction Occupational exposure in interventional neuroradiology can be considered moderate compared to legal dose limits, however, the work environment should be optimized to reduce the exposure while maintaining good ergonomics and a low burden on the operator. Mobile radiation protection cabins have proven their efficiency for radiation protection in cardiology procedures while reducing the level of personal protective equipment needed. A new cabin, Novashell, by Lempax, has been developed specifically for interventional neuroradiology procedures.

Aim of Study This study aims to measure the radiation protection efficiency of Novashell.

Methods We conducted two occupational exposure studies, with our conventional collective radiation protection equipment, two ceiling-mounted lead acrylic shields (53 procedures), and with Novashell cabin (47 procedures). We measured the doses using thermoluminescent and operational dosimeters and pooled the results by roles. We also mapped the equivalent dose rate levels in the operative room using operational dosimeters on 13 points of interest, at 3 different heights.

Results All workers' exposure has been significantly reduced with Novashell. Notably the main operator thorax dose has decreased by 55%, their exposure over the lead apron with Novashell is inferior to their exposure under the lead apron in conventional setup ($20.84 \mu\text{Sv}/\text{month}$ vs. $24.51 \mu\text{Sv}/\text{month}$). The highest benefit in equivalent dose rate level at the main operator position have been measured at the eyes level (1.6m) with a 75% decrease.

Conclusion We have demonstrated the effectiveness of the new Novashell cabin, which improves protection for the interventional neuroradiology team and addresses concerns about musculoskeletal disorders induced by personal protective equipment.

Disclosure of Interest no.

P162 VIDEO-CONFERENCING AND CAPTURE WITH CURECAST IN NEUROINTERVENTIONS

Andre Kemmling. University of Marburg, Neuroradiology, Marburg, Germany

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Introduction Telemedicine has become a staple in enhancing healthcare education and patient outcomes. Curecast stands out as a groundbreaking videoconferencing platform designed for neurointerventions in the angio cath lab. It transcends traditional teaching and collaboration methods by providing real-time, live case streaming, teaching sessions, webinars, and on-call proctoring.

Aim of Study This study evaluates the impact of Curecast on the efficiency of neurointerventions, particularly through its