EANS2024 Sofia

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Day 3 of the EANS2024 Congress:
Innovation Unleashed: Exciting Talks and Inspiring Keynotes in Neurosurgery!

Tuesday began with 9 parallel sessions, all of them interesting enough to ensure some hard choice!

Amongst them there was an **EANS and AANS Presidents' sessions** chaired by their Presidents, Torstein Meling and Jacques Morcos. This session was devoted to vascular neurosurgery presenting amongst others the European Stroke Organisation guidelines on management of unruptured intracranial aneurysms and ARISE I consensus recommendations on approaches to improve brain AVMs management as well as the management of intracranial aneurysms.

At the **Diffuse Gliomas - Clinical Neuro-Oncology session**, Rui Feng and

colleagues presented fascinating results on how prosody, a key component of human language, can evoke neural network plasticity in patients with intrinsic brain tumours. Their study showed deficits in advanced language functions in these patients, but also revealed significant neural network re-construction in response to prosodic speech, particularly involving the frontal lobe. This highlights the potential of prosodic speech for language rehabilitation and suggests that tailored surgical strategies may better preserve language function in brain tumour patients.

During the Diffuse Gliomas - Clinical Neuro-Oncology Parallel Session, Giovanni Raffa and colleagues from the University of Messina presented a study on brain tumor surgery in patients not eligible for awake craniotomy. They highlighted the use of navigated transcranial magnetic stimulation (nTMS) for preoperative language mapping, which helps to stratify surgical risks and guide tumour resection. Notably, the gross total resection was achieved in 80.1% of cases, with lower rates of permanent language deficits, making this approach a valuable alternative for high-risk patients.

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In the **Spheno-orbital skull base lesions (Skull Base Parallel Session)**, Cinzia Baiano and colleagues from the University of Bari presented a study on the treatment of spheno-orbital meningiomas (SOM). Their proposed treatment flow-chart focuses on improving visual function and aesthetic outcomes, with 95% of patients showing improved visual acuity and 85% experiencing reduced proptosis post-surgery. The study is noteworthy for achieving complete osseous infiltration removal in 100% of cases with no recurrence observed at 38-month follow-up thus, demonstrating the effectiveness of their individualised surgical approach.

At the same session our colleagues from the University of Pittsburgh Medical Center presented their findings on a minimally invasive lateral orbitotomy approach for middle fossa and orbital lesions. Reviewing 48 patients, they demonstrated feasibility of effective tumour resection with low risk of cosmetic and functional complications compared to traditional craniotomy. Notably, gross total resection was achieved in 24 cases, with minimal complication rate, highlighting the safety and cosmetic advantages of the minimally invasive approach.

The **Skull Base Plenary Session on Transcranial Petrosal Approaches** delivered fascinating insights into the latest advancements in neurosurgical techniques. Dr. Pablo Gonzalez-Lopez introduced groundbreaking technological advances in preoperative planning for petrosectomy, enhancing both precision and training. Prof. Sebastien Froelich and Dr. Samy Youssef presented comparative approaches to the petroclival region, emphasising current applications and the evolving indications for combined petrosectomy. These presentations underscored the potential for more refined surgical interventions in complex skull base procedures.

In **Spinal Oncology (Spine Parallel Session)** we learnt about commencement of an interesting prospective multicentre international observational study on management of spinal lesions in multiple myeloma. First 29 newly diagnosed, not previously treated patients, with 129 symptomatic spinal column lesion were enrolled to-date. The aim of the study is, amongst others, to learn about quality of life and pain control in patients both treated conservatively and operated on. We will be awaiting the results with enormous interest as this is a common problem in our everyday practice. Although up to 50% of patients with multiple myeloma have spinal lesions, yet there is no consensus on the role of surgery in those cases. E.g. out of 52 experts from 15 countries, 84% were of opinion that myelomas are not surgical cases and 34% would never operate on them. On the other hand in the literature one can find a series of 439 surgical cases with good results and only 10% complication rate.

With a growing number of patients with cancer and spinal secondaries it was very interesting to learn about the first 20 patients in whom spinal secondaries were intraoperatively irradiated. A device designed for IORT of spinal metastases was

presented already a couple of years ago. The needle applicator of IORT device is placed with the help of neuronavigation. As the lesions shrink, a stabilisation – if required - might be completed in a minimally invasive way.

We also learnt about a new spinal schwannoma classification based on the presumed origin of the tumour in preoperative MRI. This classification is a result of 20 years experience with 482 patients. With an assumption that the largest or cystic parts of the tumour point at its origin the authors named 9 types of schwannomas (dorsal, ventral root, dorsal root ganglion, ventral and dorsal ramus, sympathetic ganglion, paravertebral nerve and medullary) and claimed that each type has its recommended surgical approach.

The European registry on juxtamedullary tumours was presented with 544 patients undergoing either laminectomy (198 cases) or hemilaminectomy (254). There was no significant difference in duration of surgery and extent of resection, but in the hemilaminectomy group the neurological outcome was better, there was lesser blood loss whilst the hospital stay was slightly shorter.

The **Vascular Masterclass** offered a deeply reflective session on surgical complications. Mr. Daniel Walsh shared invaluable insights from his experiences with brain AVMs, emphasising the complexities and critical decision-making in treatment. Andreas Raabe highlighted the challenges and strategies in aneurysm surgery, while Marco Cenzato provided an in-depth analysis of spinal cord vascular malformations. The session concluded with Prof. Ulrich Sure's reflections on brainstem cavernomas, making it a compelling exploration of overcoming obstacles in high-risk neurosurgical procedures.

At the **ICH / Stroke (Vascular Plenary Session)** we learnt that the SWITCH trial carried out on 201 patients showed that decompressive hemicraniectomy for severe deep ICH showed a slight advantage over the best medical treatment, however, the evidence remains weak.

On the other hand, an Early Minimally Invasive Removal of ICH (ENRICH) prospective randomised study done on 300 patients predominantly with lobar haemorrhages was particularly compelling as it showed a clear benefit of early surgery compared to the best medical treatment in the lobar ICH in terms of mortality, neurological condition at 180 days and overall cost of treatment. This part of the session was crowned with 2024 updated ESO and EANS guidelines on

surgical treatment of ICH presented by Andreas Raabe. Following this, Laurel Rauschenbach and colleagues presented their multicenter study on the lifetime risk of intracerebral haemorrhage (ICH) and seizures in patients with familial cerebral cavernous malformations (FCM). They found that the lifetime risk of bleeding was ~80%, with seizures occurring in ~45% of patients, particularly severe in those with CCM3 mutations. This study is noteworthy for highlighting the increased bleeding risk and poor neurological outcomes in FCM patients, particularly those with specific genetic mutations.

Later on, participants had the chance to watch three Keynote Speeches: a talk from Iliana **Ivanova, European European Commissioner-designate for Innovation, Research, Culture, Education and Youth** who gave a brief account of the EU policy in the field and its future. Other interesting lectures in the session were given by **Martin Vechev, Professor of Computer Science, ETH Zurich**, who summarised recent advances and emerging trends in AI, and their application,

also in medicine, and **Raycho Raychev, Founder & CEO of EnduroSat**, who talked about the impact of new technologies on human life, focusing on accessibility to space in the contemporary and future world.

It was an exciting day, and there's more to come… stay tuned!

EANS Awards Ceremony – A celebration of Neurosurgical Excellence

The participants enjoyed a memorable afternoon at the first Awards Ceremony of the Congress, where three prestigious awards were presented.

The ceremony commenced with the EANS President Torstein R. Meling introducing the European Lecture. Prof. Niklas Marklund's European Lecture highlighted cutting-edge research in traumatic brain injury, focusing on advancements that pave the way for improved therapies.

Next, Marcel Ivanov, Chair of the EANS Examination Committee, awarded the Braakman Prize to Lauren Harris, a prize given to the best candidate in the FEBNS Examination in Neurosurgery Part II, for her outstanding practical knowledge and performance in the oral exam.

Finally, the EANS Humanitarian Award was presented to Prof. Hans-Peter Richter by Magnus Tisell, Chair of the Global and Humanitarian Neurosurgery

Committee, honouring his impactful work and dedication to the global neurosurgical community.

Research Course: Principles and Howtos of Neurosurgical Research - A teaser session.

Today, the EANS Research Committee hosted a teaser session for the upcoming Research Course, scheduled for 2025, highlighting the crucial role of research in neurosurgery.

This teaser session featured a series of insightful presentations. Katrin Rabiei, the EANS Research Committee Chair welcomed the participants making the introductions. **Michael Fehlings** explained the reason why **neurosurgeons should be involved with research, while Serge Marbacher** explained the general principles of preclinical research and ways to enhance translational medicine. **Sajjad Muhammad** focused on preclinical models and drug screening for neurovascular diseases and **Marike Broekman** provided insights into systematic reviews and meta-analysis. We look forward to welcoming you to the upcoming Research Course in 2025!

Peripheral Nerve Surgery Section of EANS – 7 years of success to be continued!

In 2017 the **Peripheral Nerve Surgery Section (PNS) of EANS** was introduced and ever since has been one of the most active sections to promote the importance of PNS. The driving force of all section members is the preservation and restoration of peripheral nerve function of whom should be in the center of all our efforts: the patients.

The initiator and first section chair, Lukas Rasulic, was followed by Christian Heinen in 2021.

Numerous webinars, publications, contributions to the EANS courses, consensus papers and regular online business meetings are just one part of our work. As the only section in 2020, we established a very well-received pre-congress course during each of the annual EANS meetings – a whole-day crash course devoted to Peripheral Nerve Surgery. The faculties have been featuring the top speakers from all over the world. By reaching out to the respective societies and other specialties we created a vibrant international network of peripheral nerve experts.

In the future, we will extend and expand our activities to further raise the awareness of PNS as an important and often neglected part of neurosurgery. Our vicinity to other subspecialities within neurosurgery as well as multiple other surgical and non-surgical specialties and rising technologies predetermine PNS to become a hub of innovation and improvement of life quality of our patients.

Anyone interested is most welcome to join during the Congress. Furthermore, all of us will be very happy to get in contact with you personally. **Just get in touch with us!**

EANS Functional Neurosurgery Section activities

The Functional Neurosurgery section consists of a group of highly active European neurosurgeons who are dedicated to the field of Epilepsysurgery, Deep Brain Stimulation for different indications, and Pain/Spasticity therapy.

The section is very active in various areas, including the annual composition of an engaging scientific program for the EANS congress, and the organization of joint symposia during this congress. This year, we have organized the 4th joint symposium with the European Society for Stereotactic and Functional Neurosurgery (ESSFN) and a second symposium with the Section for Pediatric Neurosurgery, both taking place on Sunday, October 13.

The EANS Epilepsy Surgery Hands-On Brain Dissection Course is another new and important event that we started this year. It took place in Vienna in August 2024, with 16 international senior trainees/young neurosurgeons and over 21 faculty members participating. Following the great success of this course, we are happy to announce that the next one is taking place in Vienna, on 3-5 July 2025, and all the Individual EANS Members that are interested in Epilepsy Surgery are highly encouraged to apply. We kindly urge you to keep up with the EANS Functional Neurosurgery Section's announcements on the EANS website.

Further activities include the participation of our section's members in the EANS Training Courses for Functional Neurosurgery, also together with other sections, in the field of Functional Neurosurgery.

Last but not least, while training and education are key goals of the section, we annually organize webinars with 2-3 keynote speakers in the field of Functional Neurosurgery. Surgical approaches, new techniques and developments are discussed under the guidance of a moderator.

Every EANS individual member can become a member of this section and is invited to actively contribute!

Exploring Advances in Peripheral Nerve Surgery: Highlights from the EANS Pre-Congress Course

Another successful edition of the EANS Peripheral Nerve Surgery Pre-Congress Course took place on October 13 at the National Palace of Culture in Sofia! Nineteen stellar speakers from across Europe and beyond provided a 360° perspective on one of the most challenging and rewarding fields in neurosurgery—Peripheral Nerve Surgery. The faculty shared their expertise with 66 delegates through a unique, high-quality program tailored to cover all related key topics, including nerve trauma, tumour management, pain innovations, and the latest technologies.

Join the #EANS2024 Social Campaign!

Enter the Social Media Competition!

We are having a competition running! Get a chance to win a free registration for the EANS2025 Congress in Vienna. The steps are easy:

- Take a photo

- Post it online on Instagram, X, Facebook, or/and LinkedIn using the #EANS2024.

- Tell your friends to vote for you - Visit the EANS2024 Social Wall to like their favourite post!

The post with the most likes on this Social Wall will be the winner. Hurry up! Vienna awaits you!

Not a member yet? Join the EANS Family!

Now is the time to join the EANS family – a colourful, open, diverse, ever-evolving and always on-the-move neurosurgical community.

Join EANS today.

Explore the Congress!