Dear members of the Neurovascular Section, dear friends,

Happy and impressed to see the third edition of the newsletter going live – many thanks to the editorial team that is doing an outstanding job, once again demonstrating what young, motivated, and efficient Neurovascular Surgeons can achieve with persistence. Once again, this newsletter is a collection of versatile contributions that have one clear statement: ‘The future of Neurovascular Surgery is bright, and everyone who has the strength and motivation to invest in this specialty should be fearless’.

The year 2018 has seen our section grow steadily breaking even with 250 members – this is a huge success and ranks Neurovascular Surgery still among the top specialties in European Neurosurgery, both clinically and academically. We have seen outstanding contributions form our members and my first wish for 2019 would be to advance with high quality research in the clinical and basic science arenas. My second wish for 2019 would be to foster novel areas of Neurovascular Surgery. Whilst aneurysms and vascular malformations will always remain in our focus, times are also changing and have become dynamic. Less traditional areas need our Neurosurgical attention, such as minimally-invasive techniques of hematoma evacuation, prevention of aneurysm rupture, rehabilitation form stroke, spinal vascular pathologies, endovascular Neurosurgery and hybrid treatment strategies, and Vascular Radiosurgery. My third wish for 2019 is to see our annual section meeting advance to the most popular and influential annual meeting in the field of Neurovascular Surgery. We have been very successful in establishing a high quality meeting with a good mix of key note contributions and contributions of young talents. The interest and number of attendees is rising each year. However, there is still room for improvement – and one reason may be an awareness gap. Thus, please spread the word and motivate your peers to attend and contribute to this key meeting. Last, but not least, my final and may be most pressing wish is to further improve our collaboration with our friends from
ESMINT. My personal view is that Endovascular Therapies of vascular pathologies will only further flourish with our Neurosurgical input, and vice versa our specialty needs the ongoing dialogue with the Interventionists. Having said that it has to be our prime aim to advance our collaboration with ESMINT to equal eye level, and to value what we can contribute to the ongoing dialogues, e.g. in the context of the joint Nice meeting.

I wish you all a wonderful Christmas time and a healthy year 2019.

Sincerely,

Peter Vajkoczy

All suggestions of publication in any part of the newsletter can be addressed by email to peter.vajkoczy@charite.de and nils.hecht@charite.de.

Comments

Please do let us know if you have something for comment, or would like to comment yourself.

Vascular section Webinar

We're very grateful to Francesco Signorelli who kindly arranged for Prof. Marco Fontanella, chairman of the Neurosurgical Dept. of the University of Brescia to speak on the topic of Brain Cavernous Malformations.

Here is the link to the recording if you missed it.

We're planning some more webinars for the New Year so please let us know if you would like to arrange one (lucinda.foster@eans.org)

The First EANS Microvascular HandsOn Course held in the beautiful city of Cluj
Napoca, Romania voted a great success.

We would like to take this opportunity to thank the Course Directors; Torstein Meling, Victor Volovici and George Dindelegan together with Prof. Florian, head of the neurosurgical department, Cluj-Napoca for so efficiently and enthusiastically organising the first ever EANS event to take place in Romania.

Victor Volovici has kindly prepared the report below on the event:

Microsurgery and more specifically microvascular techniques on vessels smaller than 1.5 mm require a particular level of dexterity and a consistent will to train, improve and perfect.

Given that the margin of error is “measured in thousandths of an inch”, the basis for becoming proficient in these techniques needs to be comprehensive and to teach more than merely the techniques themselves. However, assessment of proper indications is undoubtedly more important and more difficult than the microvascular technique itself, but the technique is the basis and it needs to be flawless in order to ensure a successful procedure. These were the principles that we had in mind when we developed the EANS Microvascular course in Cluj-Napoca, Romania.

In the inaugural EANS Microvascular course, 7th to the 11th of November 2018, faculty from the EANS, the Erasmus MC in Rotterdam, and from Cluj-Napoca worked together to guide participants through the steps, from basic models (such as fake vessels and flower petals) to non-living models (chicken legs) to living models (complex vascular reconstructions on rats). All techniques were demonstrated by the faculty in real time, with tips and tricks about the difficulties of the exercises and how this translates to the clinical cases.

The ideal learning experience is one-on-one tutoring, passionate and dedicated faculty that strive for perfection themselves, long practice hours, keeping theoretical presentations to a minimum and tailoring teaching to the participants’ characters. Learning and teaching microvascular techniques is a two-way street, where immediate feedback between participant and tutor is essential and defines the whole teaching experience. Their anastomoses were also blindly assessed by two faculty members independently as a measure of the efficiency of the course. On average, after the course, participants made 10 mistakes less, which translated to, on average, half the mistakes they did in the very beginning. This could only be accomplished through hard work, dedication (many hours of
maximum concentration in which an eerie silence engulfed the skills lab) and continuous feedback and guidance from the faculty.

The final day also had a considerable amount of time dedicated to microvascular anastomoses in a deep field, which pose other challenges than the superficial anastomoses. Last but not least, participants received a guideline on how to carry their training forward in their own centers and what is necessary to achieve and maintain a patency of 100% from a technical viewpoint.

The feedback was very good and we plan to expand the idea of “microsurgical techniques” and microneurosurgery in the next course that will be held in the Erasmus MC in Rotterdam in 2019.

Cristina Aldea, one of the participants, kindly provided us with this feedback:

Out of all the hands-on courses I’ve been to up until now, the EANS Microvascular Hands-On course from Cluj-Napoca was undoubtedly one of the best. For me as a beginner, it was very useful that we gradually progressed from basic suturing on latex (and the painfully delighting flower petal model- extremely difficult to do well) to complex venous anastomoses. The participant-instructor ratio was excellent, each of us had an instructor near-by at all times, guiding us, praising us when we did well and gently correcting us in case of mistakes.

The faculty were also not only clearly masters of their field, but also very good masters of teaching. I particularly liked Dr. Volovicis’ clear hands-on demonstrations and insight, his vision of teaching the art of microsurgery beyond the science of it. He developed a concept for exercising microsurgical suturing in a deep field, which made you think and challenge yourself to (or even over) your limit. Mastering manoeuvres and control in a deep field is, I think critical for us neurosurgeons. I also enjoyed the theoretical sessions, particularly those of Prof. Florian, a true master of clipology. Prof. Meling also wowed us with his openness and expertise, Dr. Dammers with his forward thinking, openness and willingness to teach and Dr. Velinov, an endovascular neurosurgeon taught us, beyond the tenets of the trade, that we can do anything we want, if we are willing to work for it. Within their lectures they not only presented scientific facts, but also inspired us to want to do better and constantly test and challenge ourselves.

All in all it was a very useful experience: didactic, challenging, pleasantly tiring and very friendly. Besides learning how to correctly train for microvascular surgery, I have also made
new friends whom I am looking forward to seeing again. The venue and social events were also totally worth it.

**Nikolay Velinov, one of the Faculty, very much enjoyed his time in Cluj too. Here is his feedback:**

“In my experience the course in Cluj presented a wonderful opportunity for teacher – resident one on one training. The 5 day course allowed a gradual element of difficulty progression from flower petals to an animal model. The residents showed great interest and potential. Such courses give a chance for many young neurosurgeons to enter and get acquainted with the field of vascular neurosurgery, learn basic and also new training models and develop advanced microsurgical skills”.

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**Next EANS Microvascular HandsOn Course**

November 7, 2019 — November 10, 2019
Rotterdam, The Netherlands

**SAVE THE DATE**

Don't forget to join our EANS Vascular Section Discussion Group and share your cases!
Case discussions are a great opportunity to debate and obtain second opinions for your cases in a secure and helpful group comprised of your fellow Vascular Section members. We're currently running this facility on Medshr.

Join now!
Michael Lawton, MD, is the President and CEO of Barrow Neurological Institute and the Chair of the Department of Neurosurgery. He is board certified by the American Board of Neurological Surgery and his neurosurgical expertise includes cerebrovascular disorders and skull base tumors. He has experience in treating more than 4,000 brain aneurysms, 800 AVMs, and 1,000 cavernous malformations. Dr. Lawton received a degree in biomedical engineering from Brown University and his medical degree from Johns Hopkins University School of Medicine. He completed his neurosurgery residency at Barrow, where he also completed a fellowship in cerebrovascular and skull base surgery. After joining the faculty at University of California, San Francisco, he later completed a fellowship in endovascular surgery there. Dr. Lawton’s research studies the formation, underlying genetics, and rupture of brain AVMs, as well as the hemodynamics, rupture, and computational modeling of brain aneurysms. His clinical research studies the anatomy of microsurgical approaches and clinical outcomes of microsurgery for aneurysms, AVMs, and bypass surgery. He is the principal investigator for the Brain Vascular Malformation Consortium, a NIH-funded multicenter group studying the genetics and clinical course of rare vascular diseases of the brain. He has published over 450 peer-reviewed articles, three single-author textbooks, and over 70 book chapters. He also co-founded Mission: BRAIN, a teaching mission to raise the level of neurosurgery practiced in developing countries that conducts annual missions in Mexico and Asia.

1) In your opinion, what makes a good vascular neurosurgeon?

The right mix of manual dexterity, knowledge of surgical anatomy, proper use of instruments, creativity, composure, passion, work ethic, resilience, and perfectionism.

2) Which factors influenced your decision to pursue neurosurgical training and specialize in vascular neurosurgery?

I specialized in vascular neurosurgery because I enjoyed the technical challenges of these cases, the thrill of the high risks, the spectacular anatomy, the “life and death” nature of the cases, and the endless variety. I was initially headed towards a career in tumor neurosurgery, but found the elegance and excitement of vascular neurosurgery so much more alluring.

3) How did the vascular disease spectrum change over the last decades in your practice influenced by the increasing number of patients treated with endovascular techniques?

I have experienced the endovascular revolution and watched my expanding aneurysm practice...
peak and then contract. I have climbed learning curves, mastered skills, published extensively, written textbooks, and developed my reputation in the field, only to have a shrinking practice. Technology, infiltration from other disciplines, and market forces are overwhelming. I am still treating 200 aneurysms per year, and the complexity is increasing overall. Other diseases have filled the gaps, like cavernous malformations and bypasses. The volume of these lesions is increasing, and AVM volume is steady. I have also found that the microsurgical skills that come from vascular neurosurgery translate perfectly to skull base tumor surgery, and this part of my practice has also grown dramatically.

4) The new generation of vascular neurosurgeons in the US are all dual-trained (microsurgical and endovascular). In Europe this is still not the case and in most countries endovascular treatment is performed by neuroradiology. Do you think Europe should change towards the US model?
Yes, dual-training in open neurosurgery and endovascular surgery is the optimal training model because it prepares the neurosurgeon for whatever career path presents itself and enables complete care of the patient. I still believe that peak performance comes from participation in a team and further subspecialization, because this enables focus and even greater expertise.

5) How do you see the future of vascular neurosurgery and in particular open microsurgery with the recent technical developments such as intra-saccular devises (WEB), aneurysm neck bridging devices (eCLIPs) or flow diverter to treat traditionally surgical aneurysm cases?
These devices and technological advancements in general will continue to erode case volume of open aneurysm cases. As a result, microsurgical aneurysm volume will be concentrated with fewer experts, and employment opportunities will be scarce in the future. Consequently, choosing a career in microvascular surgery will become a competitive pyramid. Today, the chances of a resident becoming a microvascular surgeon is approximately 5%. The rate will likely fall sharply with continued endovascular advancements. Therefore, those who embark on this career path must accept intense competition and the possibility of being culled. Aspiring neurosurgeons will face a choice between chasing their passion with a high attrition rate or opting for a more accepting alternative.

6) If a young resident is thinking about going into vascular neurosurgery and is asking for your advice, what would you recommend?
I foresee a lasting role for open microsurgery in vascular neurosurgery, and I would choose to enter the specialty again, with training in both open microsurgical and endovascular techniques. Brainstem CCMs demonstrate that fresh insights and the application of open microsurgical skills can expand vascular neurosurgery. AVMs demonstrate that even as other modalities advance to minimize invasive interventions, occlusive and obliteratorive therapies remain inferior to resective therapies. Aneurysms demonstrate that open microsurgery may be superior to endovascular
therapies in patients with complex aneurysms, reconfirming the need for open vascular neurosurgeons. If vascular neurosurgery is your passion, you should follow it and give your best shot at making it.

Jan-Karl Burkhardt conducted the interview with Michael T. Lawton by email.

Upcoming Events from the Vascular Section

Upcoming Events from the Vascular Section will detail any relevant subspecialty events run by the EANS, any event run by a member of the subspecialty committee, and even relevant events outside Europe, together with a brief explanation why it would be good to attend. We'll be featuring three events at any one time.

EANS Basic Brain Surgery Course
January 21, 2019 — January 25, 2019
Milan, Italy and Geneva, Switzerland

Further information can be found here: https://www.eans.org/events/event-1355/

7th Neurosurgical Masterclass: Vascular Neurosurgery
28 February - 3 March
Cluj Napoca, Romania

This masterclass is ideal for medical students and young residents in neurosurgery.

Further information can be found here: https://www.eans.org/events/event-1373/

Microsurgery Course on Vascular Anastomoses with Rosemarie Frick
March 5, 2019 — March 8, 2019
Pavia, Italy
Further information can be found here: https://www.eans.org/events/event-1338/

For more subspecialty events from the EANS' complete listing, please click here

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