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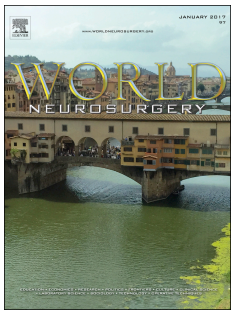

Cerebral Aneurysm Clipping/Coiling 101

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CEREBRAL ANEURYSM CLIPPING/COILING 101

In the article by Piazza et al. from the University of Pennsylvania Neurosurgery Department, Pennsylvania, USA, the authors performed an analysis of the National Inpatient Sample (NIS) to estimate the number of intracranial aneurysms (ruptured and unruptured) treated using clipping or endovascular modalities over a ten year period (2002-11) at teaching institutions. Additional data mining from the NIS was used to study the opportunities available to residents to partake in these procedures, calculated as the number of a specific type of case divided by average number of residents during a given year. They found the percentage change in odds of a clipped ruptured aneurysm to be -15.6% per year and the change in odds of a ruptured aneurysm undergoing endovascular treatment to be +18.7%. Correspondingly, there was a decline in resident involvement, or "teaching opportunity" for clipping ruptured (but not unruptured) aneurysms. The "teaching opportunity" for endovascular treatment of aneurysms during this time increased significantly for both ruptured and unruptured lesions. The authors conclude that given the decrease in clipping opportunity for residents during residencies that there will need to be a paradigm shift in residency training to better prepare residents interested in performing neurovascular/neuroendovascular surgery.

I agree that a major change in residency training is in order.

CREDENTIALING

Credentialing to perform aneurysm clipping in the United States requires two separate entities: a neurosurgical residency diploma and hospital board approval. Credentialing to perform aneurysm coiling/stenting requires only one: a hospital board, as there currently is no well-recognized single entity that "vouches" for one's ability to endovascularly treat an aneurysm. Most hospitals that would be engaging in neuroendovascular procedures would require some statement from either a fellowship program or at least an experienced operator stating that the person has been trained. But ultimately it is up to the hospital to decide. The result is that there are no universally agreed upon standards for type or duration of neuroendovascular training. A general interventional radiologist or cardiologist could perform endovascular thrombectomy, or even aneurysm coiling if they and their aligned hospital so desired.

The neurosurgical societies, The American Association of Neurological Surgery (AANS) and the Congress of Neurological Surgery (CNS) often in conjunction with other relevant societies including but not limited to The Society of Neurological Surgeons, The Joint Cerebrovascular Section of the AANS and CNS and The Society for Neurointerventional Surgery are working diligently to create standards for training in neuroendovascular procedures. The Committee for Accreditation of Subspecialty Training (CAST), founded in 1999 under the auspices of The Society of Neurological Surgeons, has published program requirements for both cerebrovascular neurosurgery and neuroendovascular surgery fellowships, but recognition of credentialed programs has become official for neuroendovascular surgery only. I suspect this relates in part to the influx of practitioners from at least three different disciplines, neurosurgery, radiology and neurology, highlighting the disparity in training and experience among providers and perhaps in turn moving the process of standardization along. The effort at