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A Clear and Present Danger?

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A Clear and Present Danger?

As the Chairman of the Fellowship Directors Subcommittee of the Education Committee of the American Society of Neuroradiology (ASNR), I have witnessed many challenges that jeopardize the long-term health of our subspecialty. These dangers strike at our legacy to the future—our trainees. In some cases, these threats are a natural evolution of the improved technology that we have promoted

and supported. In other cases, strains are created by the variance in long-term goals set by divisions within our society. Outside threats are still another source of potential peril to our training programs. If a consolidated fellowship program is going to thrive, we must meet these challenges with new ideas and a spirit of collegiality and cooperation.

Improved Technology

Seven years ago, Bill Dillon of the University of California, San Francisco (USCF), commented at an annual meeting that he was soon going to be unable to meet the required number of myelograms specified in the ACGME guidelines, because his clinicians had embraced spinal MR imaging as the definitive study for the spine. At the time, I was shocked, but this is a case in which improved noninvasive technology has made inroads against a more invasive technique. But for the grace of pedicle screws and other metallic hardware that preclude optimal evaluation with MR imaging, I believe that my program and many across the country with thriving MR imaging practices would be facing the same circumstances as those faced by the UCSF several years ago. Now, however, our progress in Doppler sonography, enhanced MR angiography, and CT angiography has produced a similar dilemma with respect to diagnostic angiography for the evaluation of atherosclerosis. As the number of these diagnostic procedures performed continue to decrease and a greater percentage of our cases become therapeutic-interventional, the angiographic experience of the diagnostic neuroradiology fellow becomes more and more diluted. We are the victims of our own success. The low number of diagnostic vascular studies (and the high number of nonneuroradiologists performing these studies), cited in the article by Friedman et al that appears in this issue (page 1650), are frightening to those in jeopardy of not meeting ACGME requirements in a 1-year program.

Variance in Goals within the Subsocieties of the ASNR

Many fellowship programs do not have the volume of cases necessary to achieve the higher standards recently set by the American Society of Interventional and Therapeutic Neuroradiology (ASITN) to reduce the rate of strokes during angiography. The smaller number of cases is attributable in part to the change in the case mix and in part to the ASITN rightfully attempting to increase the quality of studies performed. We all believe in a quality product. To what extreme will we go to ensure it?

The number of program directors who are compelled to separate diagnostic neuroradiology from interventional neuroradiology is slowly growing. In Friedman et al's review of fellowship programs, they report that ''45% of 1- or 2-year programs do not receive any exposure to endovascular interventional neuroradiology during the first-year of fellowship.'' As the neurointerventional community moves to cement their role in the medical sphere, diagnostic neuroradiology fellows are experiencing some of the aftershocks.

Similar goals set by the American Society of Spine Radiology and American Society of Pediatric Neuroradiology are at odds with those of a general neuroradiology fellowship. Vertebroplasty is moving toward the neurointerventional realm, and the requirements for adequate training are far exceeding the weekend courses currently offered to physicians in the community and beyond. The expectation that fellows should study pediatric neuroradiology for a full year to be respected as a pediatric neuroradiologist also diminishes the confidence placed in the rotating diagnostic neuroradiology fellow. Head and neck radiologists may also doubt the ability of 1-year neuroradiology fellows to read findings in sophisticated head and neck cases. Separate 1-year head and neck fellowships exist. What value, then, do we place in a 1-year ACGME-accredited neuroradiology fellowship if head and neck, pediatric, spine, and neurointerventional training is called into question? Are we like sharks, eating our own offspring and destroying our future?

Threats from Without

We must all confess that, in raising training standards and establishing the certificate of added qualification in neuroradiology, we were attempting in some way to preserve our turf. There are very real signs that other fields of radiology are encroaching on what we probably believe is the rightful domain of neuroradiology (eg, interventional radiologists performing carotid angiography, vertebroplasty, and stent placement; orthopedic radiologists handling facet blocks and nerve root blocks; cross-sectional imagers reading head and neck images). And these are our brethren within radiology! Add the cardiologists, vascular surgeons, neurosurgeons, neurologists, and sundry other specialists who are performing and interpreting images from those procedures that typically are apportioned to neuroradiology, and you have the proverbial ''sucking sound of jobs going South'' that Ross Perot warned us about with the North American Free Trade Agreement. Obviously these cases also are being lost to our training programs as well.

By a strange twist of fate, we are also losing our workforce to the general radiology private sector. In their articles, both Yousem et al (page 1654) and Friedman et al suggest that the number of fellowship candidates entering neuroradiology is shrinking. In the recent neuroradiology fellowship match, more than twice as many positions were offered by fellowship programs as there were candidates in the match. Applications to fellowships are decreasing, according to the report by Friedman et al, even as the neuroradiology programs are reducing their sizes. The demand for imaging in the medical profes-

sion has led to a prominent need for imagers in both private and academic settings. The number of advertisements for jobs in the *AJNR* has increased more than sevenfold in just 4 years. This trend exceeds the number of candidates for and graduates of neuroradiology fellowships. No wonder fellows are leaving 2-year fellowship programs after only 1 year. The market demands it. Even a recent survey concluded through the Society of Chairmen in Academic Radiology Departments revealed that more than five academic positions per academic institution are currently available.

How Can We Preserve the Future for the Generation of Neuroradiologists that Will Follow Us?

I believe that continuing to carve the ASNR into smaller and smaller pieces with supersubspecialties is a self-destructive tendency that detracts from a consolidated training in neuroradiology. Diagnostic and therapeutic, spine, pediatric, head and neck, physicists, and MR specialist neuroradiologists must work together to appropriately train fellows who will or will not be practicing all fields of neuroradiology in their profession.

The ASNR is slowly coming to support a stance that, to be well-trained in the neuroscience of neuroradiology, head and neck imaging, pediatric neuroradiology, spine imaging, as well as in the therapeutic and interventional aspects of these fields, the fellowship training must exceed 12 months. Eighteen months is a compromise position, but many academic centers still demand 24 months. I believe that the only way that we can maintain continuity in 18–24-month fellowships in this environment is to shift as much of the training into the residency as possible. We must pursue 72-month programs and ''2-2-2'' radiology-neurology-neuroradiology combined programs, and we must expand open-ended ''resifellowships.''

We must advertise our role in the medical community. Cardiologists, thoracic surgeons, orthopedic surgeons, and emergency medicine physicians play a preeminent role in the media. We must advertise the excitement of neuroradiology. How many youngsters watching television at night gasp at the screen, ''There! There! I want to be that kind of doctor—a neuroradiologist!'' We know just how large a role we all play in the diagnosis and treatment of common disorders such as stroke, back pain, sinusitis, and dementia. We should perform more community awareness projects and outreach programs such as listening for carotid bruits or performing carotid ultrasounds in the mall during stroke awareness month or using portable MR imagers in outreach programs, in indigent settings, or on reservations.

We must instill enthusiasm for our field earlier in residents' careers. Too often, residents finally become interested in neuroradiology late in the third or fourth year because they are not exposed to the excitement of MR imaging or interventional procedures in their first years. We use the early rotations ensuring that they can read emergency CT scans on call rather than amazing them with what we can do to depict (or treat) the brain, spine, or head and neck.

I, for one, fear that if we do not take these steps to replenish our ranks, we will find that our specialty will not have sufficient youthfulness to survive the clear and present danger to our long-term health.

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