*Greetings
from
Abroad*

2nd
report

Spinal Neurosurgery in the United States in 2009

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Historical Background

The last twenty five years have seen a tremendous growth in the field of spinal neurosurgery in the United States. This includes a great increase in the number and complexity of the procedures performed, not to mention basic and clinical research on all aspects of spinal disease and treatments. This has also been fueled by the aging of our population, as well as the insistence on improvement in the quality of life in the later years. There has been considerable focus on the training of residents, fellows and surgeons in practice as we strive to keep up with the rapid pace of change in this field, and this has in turn encouraged the growth of numerous specialty societies and educational meetings. However, there have been many developments that may fundamentally change the practice of spinal surgery for better or worse in the United States in the coming years, which will be the focus of this update.

Collaboration and Competition with Orthopaedics

As recently as when I was a resident at Columbia University in New York, in the 1980's, very few neurosurgeons had any understanding of bone physiology, biomechanics, or the techniques of spinal arthrodesis, and many orthopaedic surgeons were uncomfortable working near the neural structures. We typically performed the laminectomies or discectomies, and if indicated, our orthopaedic colleagues would take over and complete the arthrodesis. The only exception in that era was anterior cervical spinal surgery, where the pioneering work of Dr. Ralph Cloward had encouraged many neurosurgeons to perform their own arthrodesis procedures. Since that time, orthopaedic

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spine fellowships and residency programs have increasingly included training in decompression techniques, and neurosurgical residencies have included all aspects of spinal care in the curriculum, not to mention the development of post-residency spine fellowships in neurosurgery for those who want subspecialty training. This led to a long period of debate and combat mostly during the 1990's between the specialties as each tried to expand into new areas but keep their traditional procedures protected. These battles have mostly been resolved now and the level of collaboration and cooperation between neurosurgery and orthopaedics has never been higher.

This trend is best seen in our specialty societies. For example, the Cervical Spine Research Society (CSRS) has long included both specialties, and the Scoliosis Research Society (SRS) has been actively reaching out to the neurosurgical community in recent years. Our parent organi-

zations such as the American Association of Neurological Surgeons (AANS) and the American Association of Orthopaedic Surgeons (AAOS) have been coordinating their national efforts. The North American Spine Society (NASS) has grown dramatically in the last ten years as a multispecialty society focused on spinal problems, not just surgical issues. The leadership of NASS includes both surgical specialties, typified by our current president, Dr. Charles Branch, a neurosurgeon.

Some have even called for an independent specialty of "Spine Surgery" with its own certifying board, but this is not likely to occur soon. There are too many obstacles, most importantly of how hospitals cover on-call responsibilities for non-spinal neurosurgical and orthopaedic emergencies, in addition to significant opposition from organized neurosurgery.

Innovation and Industry

Hand in hand with the growth of spinal surgery in the US and around the world has been the Medical Device Industry. In collaboration with surgeon-inventors and other researchers, there has been an explosion of technology related to spine care, including pre- and intraoperative imaging, surgical instrumentation including retractors to promote minimally invasive approaches, spinal hardware to facilitate arthrodesis or allow dynamic stabilization, artificial substitutes for allograft or autograft, biological agents to promote osteogenesis, artificial discs, intraoperative monitoring, image guidance, external orthoses, spinal cord stimulation, and intrathecal drug delivery systems. There continues to be tension between the desire of patients and surgeons to adopt new techniques as quickly as possible, and the increasingly difficult process of clearance through the Food and Drug Administration (FDA). As the cost and utilization of these devices has increased exponentially in recent years, insurance companies and governmental health funding agencies including Medicare (CMS) have been increasingly reluctant to authorize payment unless a clear advantage has been demonstrated. These developments have significantly slowed the introduction of novel technologies in the US, and many surgeons feel that this trend will increase in future years. Since a considerable part of the spinal research is underwritten by industry, there are implications as to the willingness to investigate new approaches if they cannot be marketed at some point.

Along with this is a radical restructuring of the relationship between physicians and industry in the US. Several well-publicized scandals have been widely reported in the general media such as the New York Times and the Wall Street Journal, typically involving undisclosed consulting or royalty payments, or the suppression of unfavorable research data, and these have included the involvement of spinal neurosurgeons. This had led to investigations at the Justice Department and the United States Senate, the most prominent of which is being led by Senator Charles Grassley. In response, hospitals, medical societies, professional journals and our national organizations have redefined rules for disclosure of relationships, what constitutes a conflict of interest, and what sort of interactions a surgeon can have with industry and still participate in patient care, training and research activities. While most participants in this process recognize the vital role that industry collaboration provides, the degree to which abuses have occurred has given considerable momentum to the forces of reform. In the next few years, this is likely to be reflected in decreased support for specialty societies, educational meetings and seminars, increased difficulty of legitimate collaborative research efforts, and difficulty conducting transitional and clinical research in the US.

Health Care Reform

This is perhaps the greatest area of uncertainty that US spinal neurosurgeons face at this time. It has long been recognized both here and around the world that our system of health care needs to change. Although our system has many strong points, it is by far the costliest and yet fails to provide universal care or get top ratings in many categories of care. Although there has been talk of reform for a very long time, previous administrations have not been able to overcome the political obstacles to progress, most prominently the attempt by former President William Clinton and Hillary Clinton in 1994. However, the increasing percentage of the national budget being spent currently on healthcare, the growth in costs of that care which are outpacing inflation, and the large increase in elderly, retired individuals versus the stagnant growth in the working population have all led to a new resolve to change the system. President Barack Obama has made this one of his greatest priorities, and the debate has been raging throughout the summer and into the fall. So far, the traditional political forces and special

interest groups (including neurosurgeons!) have managed to prevent any one plan from moving forward. No matter which plan emerges, it is likely that there will be greater central oversight of costs, procedures, and outcomes. Current trends suggest that specialist such as spinal neurosurgeons will get less favorable treatment than primary care specialists, and that spinal procedures will be restricted. Some also fear cutbacks in spinal research and training. However, it is too early to say and our national organizations are lobbying in Washington DC to keep these from

happening.

Summary

We continue to make steady advances in spinal neurosurgery in the US, in collaboration with our orthopaedic and industry partners, as well as our colleagues in Japan and around the world. We also face new and difficult challenges here, but some of these are things that you have faced for many years in your country, and we welcome any advice you have for us.

Comment “Greetings from abroad” 連載にあたって(2)

総合南東北病院 水野順一

Dr. Joseph T. Alexander とは 1996 年に私が 3 度目の米国留学をして以来、10 年以上親交があります。初めて会ったエモリー大学では、彼は Dr. Regis Haid, Dr. Rusty Rodts の 2 人のもとで、spine fellow をしていました。なにかと面倒見がよく、日々の手術予定やカンファレンスなどの情報をこまめに教えてくれました。エモリー大学を離れ、しばらくフロリダの Jacksonville にある Mayo Clinic に在籍し、そののち Wake Forest 大学に准教授として移りました。脳神経外科の主任教授は今回の文章にも出てくる Dr. Charles Branch であり、脊椎脊髄手術の症例が数多く、アメリカでも屈指の spine center があります。私も過去に 1 度招待され、OPLL の手術について話す機会がありました。その時は 7 人程度の spine center のスタッフが聞きに来てくれましたが、3 人が脳神経外科、4 人が整形外科出身でした。講演後夕食に誘ってもらいましたが、その時も整形外科の先生も来てくれて、両者の関係のよさが感じられました。彼は昨年 AANS/CNS Section of Disorders of the Spine and the Peripheral Nerves の会長として、フロリダの Orlando で大変素晴らしい学会を開催しました。現在はなんとアメリカ東部の最北端にあるメイン州の Portland で Main Medical Center で仕事をしています。先日 WFNS の学会で Boston を訪れた際に Portland まで足をのばし、一緒にメインロブスターのバーベキューをしました。4 人の父親でもある Joe の紹介を、簡単ですがここに記しました。今回の Greetings from abroad では脊髄外科にとどまらず、アメリカの医療制度、保険の問題まで書かれています。ぜひ一読してみてください。