Historical vignette

3131C—World War II neurosurgery

EBEN ALEXANDER, JR., M.D.

Department of Neurosurgery, Wake Forest University School of Medicine, Winston-Salem, North Carolina

Preparation for surgical care of the wounded in a two-theater war was extensive and skillfully organized by Michael DeBakey, one of the prime advisors to the Surgeon General of the Army, and by his colleague, Eli Ginzberg, Ph.D. Some of the ways in which this organization was carried out are described.

Although the number of neurosurgeons who can recall any involvement of neurosurgery in World War II is diminishing, there remain a significant number who do remember such involvement, many of whom have helped to provide information for this article.

Key Words • neurosurgery • World War II • neurosurgical education

In 1938, when those of us in the Harvard Medical School class of 1939 were in our junior year, we attended a presentation given by Elliott Cutler, the Mosley Professor of Surgery, to the Boylston Medical Society. Cutler had served in World War I and listened to our expressions of doubt about the need for another war. In fact, we said that there would never be another war but, if there were, we would not join any of the services.

Cutler’s expletives in response to such statements still ring clearly in my mind. He indicated that we were confused and said that what we needed was another good war. Little did we know how right he was or how much we would be involved in such a war. Many of us came to serve in World War II at home and overseas, and at least two of our classmates lost their lives during that service. By the time of our graduation in 1939, Hitler had begun to overrun Europe. We had completed the standard 4 years of medical school and most of us who wanted to be surgeons had completed 3 years of surgical internship. I had had the privilege of serving in the Peter Bent Brigham/Children’s Hospital program and planned at the time to be a pediatric surgeon. However, there was a 6-month interval before the resident position in pediatric surgery would become available and, during that interval, I served with Franc Ingraham, the chief of neurosurgery. That experience inspired me to become a neurosurgeon.

My story is not unique. Before I could begin any additional training, I enlisted in the Air Force as a general medical officer (classification 3150). I was later transferred to the ground forces of the United States Army as a neurosurgeon with the classification 3131C (Fig. 1).

None of us, including Don Matson, who served in the Army, and John Adams, who served in the Marines as a paratrooper, had any thoughts about how the medical services of the armed forces of the United States had been organized or by whom. Therefore, for this review, I am indebted to two of the most prominent neurosurgeons of that day, Glen Spurling and Barnes Woodhall, who edited a history about neurosurgery in World War II. The two-volume book was written in 1947, but was not published until 1958, although the published text was almost completely the same as the original submission. In addition, an article written by Colonel William S. Mullins and Captain Robert J. Parks from the Office of the Surgeon General, published in 1974, contained many details of our service that I had not been able to find previously.

It is difficult to locate documents at the historical department of the Army because much of the material is stored away and there is little incentive for anyone in the Army to retrieve it. However, a great deal of important organization of the overall medical needs of the armed forces went on at a high level, and the volumes edited by Spurling and Woodhall regarding neurosurgery and other specialties related to it are important sources of such information. In the foreword of their book General S. B. Hays wrote as follows:

In World War I, in spite of the superb work of a few neurosurgeons, most particularly the late Col. Harvey Cushing, MC, neurosurgery was not a sharply defined specialty as, indeed, it was not in civilian life. After the war, even the slight degree of specialization which had been achieved in the Medical Corps during the war languished completely. Most neurosurgical injuries were handled by orthopedic or general surgery sections of hospitals. Those injuries and conditions which could not thus be treated were referred to civilian neurosurgeons or were cared
for in Army hospitals by special arrangements with local neurosurgical consultants. These arrangements, as the text points out, did not constitute a system capable of handling the enormous neurosurgical load which World War II produced. There were no prewar plans for patient loads of such magnitude. The first neurosurgeons, in fact, who entered the service were—very wisely—advised to bring their own instruments and other neurosurgical equipment with them.8

The American Board of Neurological Surgery really did not become active until 1941 and there were only approximately 30 neurosurgeons in the United States who were qualified and ready for military service. General Hays continued:

The neurosurgeons certified by this Board provided the nucleus of Army neurosurgeons, but it was the special training courses in neurosurgery, set up for young, well-trained general surgeons in civilian medical schools, which provided the majority of neurosurgeons who cared for the neurosurgical casualties of World War II. Intolerable shortages would have occurred in this special field without the outstanding work and judicious placement of these young medical officers.8

Spurling and Woodhall8 concluded that well-trained neurosurgeons should not be involved in frontline activities of the service, but that younger surgeons should be briefly trained in the basic aspects of neurosurgery and sent into combat areas. The set of principles guiding such deployment of neurosurgical personnel was as follows:

1. Qualified, experienced neurosurgeons, of recognized ability, are not necessary in the combat zone. They will be of greatest usefulness in general hospitals in the communications zone, in which definitive, complete neurosurgical care should be given.

2. Medical officers trained in general surgery and instructed in the most effective methods for the immediate surgical treatment of neurosurgical wounds should be assigned to the combat zone.

3. Casualties with neurosurgical injuries, after initial wound surgery, should be evacuated as rapidly as possible to general hospitals in the communications zone for definitive treatment by experienced neurosurgeons.8

The training of the younger neurosurgeons was initiated as a specific 6-week course in neurosurgery held at the University of Illinois, Columbia Presbyterian University, or the University of Pennsylvania. The course covered basic surgical anatomy, surgical techniques, and other essential aspects, under the supervision of civilian neurosurgeons. This was followed by a 60- to 90-day experience at an Army medical center designed as a neurosurgical center. Those surgeons who went through this training were designated 3131C (the classification symbol for neurosurgeons with that MOS; the classification number 3131 was followed by the letter A, B, C, or D, indicating the degree of professional proficiency). It has not been possible to obtain the names of all those surgeons who were trained under the 3131C program, and people who had received incomplete training in neurosurgery in civilian life (<1 year) served without going through the course. Of those, Donald Matson, Joseph Ransohoff, Ludwig Segerberg, Bert Silverstone, and I are the only ones I can clearly recall who remained in neurosurgery after the war. Others who served in the war as neurosurgeons with the designation 3131C include John Brabson, David Robinson, John Kirklin, Dauchy Miguel, and Jesse Thompson—none of whom continued as neurosurgeons after the war. Other neurosurgeons who later served honorably in other categories were Lyle French (who was ahead of the 3131C group and served overseas), George Roulhac, Henry Schwartz, Larry Pool (a trained neurosurgeon), Eldridge Campbell (a trained neurosurgeon), and John Lowrey (who finished his training before entering the service and became a major in the Army Medical Service). Others who served in the enlisted reserve corps and were given the designation 3131D included Bob McLaurin, Courtland Davis (my neurosurgical colleague and long-time partner), and George Hayes (who remained in the service and retired as a General).

As for myself, I spent some time in the Air Force and was then transferred to the ground forces, where I was eventually assigned to a 6-week course at Columbia University in New York. I later served under Colonel R. Glen Spurling at Walter Reed General Hospital, where I was associated with classmate Don Matson and with Ben Whitcomb (who had received a little neurosurgical training), among others. From there, after a period of several months, I was transferred to McCaw General Hospital in Walla Walla, Washington, and went overseas with the 99th Evacuation Hospital as a 3131C neurosurgeon.

In the meantime, Ben Whitcomb continued to serve in the various general hospitals in the Zone of Interior and
Don Matson went to the European Theater as head of the Second Auxiliary Surgical Unit. John Lowrey, who was in a class graduating after ours at Harvard Medical School, stayed at the Brigham Hospital to complete his residency, and then joined the Army as a fully trained neurosurgeon. I served as a neurosurgeon with the 99th Evacuation Hospital, which landed in Hollandia, New Guinea, and then passed, with various combat units, through Morotai and Mindanao in the Philippines, and on to Japan 4 days after D-Day.\(^1\)

It is difficult to complete this remembrance without commenting on the rebirth of interest in World War II, as exemplified in an article written by Arthur Schlesinger, Jr., published in the *NRTA Bulletin* of the American Association of Retired Persons. In this article, Schlesinger states:

> World War II veterans are dying off at the rate of 3,200 a month. Postwar Americans suddenly recognize that their parents and grandparents deserve a little honor while some of them are still around.\(^7\)

His comment was a stimulus for writing this paper and, while preparing it, I learned many other details about the outstanding leadership shown by physicians in planning for the casualties of World War II.

One of the more surprising things was the influence of Eli Ginzberg as Director of the Resource/Analysis Division of the Army Medical Corps. During that time he was an intimate advisor to Colonel Michael DeBakey, Deputy Head of the Consultant Division under General Bliss, and was accompanied by Brigadier General Hugh Morton for medicine and Brigadier General William C. Menninger for psychiatry. These individuals, as summarized in an article by Ginzberg published in *Academic Medicine*, had a large influence in deciding what personnel would be needed in the service. It was DeBakey who decided that the branches of medicine would be recognized as specialties and it was with this in mind that he and those under his command arranged for various training programs for specialists, especially neurosurgeons. DeBakey gives full credit to the many people who helped him, including Colonel Edward Churchill and Brigadier General Elliott Cutler, both of Harvard, who outlined the ways in which wounds should be treated and who had a beneficial effect on the care and evacuation of the wounded in World War II.\(^2\)

The influence that Michael DeBakey exerted in neurosurgery through Colonel Glen Spurling and Colonel Barnes Woodhall is obvious when one reads what those individuals did. This was further emphasized in a symposium held at the Walter Reed Army Medical Center in 1952, at which a summary of the effectiveness of the Army Medical Corps in World War II, including the specialties, was outlined and reemphasized by many high-ranking officers in neurosurgery, including the late Barnes Woodhall and Eldridge Campbell.\(^3\)

In the opinion of many observers, the neurosurgical training program was one of the major medical accomplishments of the war. In the prewar years, there was a decided tendency in all of the surgical specialties, including neurosurgery, to underestimate the value of a sound background in general surgery as a preliminary to specialized training. Neurosurgeons, more than any other specialists, were inclined to emphasize the theoretical rather than the practical aspects of their specialty. As a result of the wartime experience, it can now be said, without qualifica-

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\(^1\) Schlesinger, A. (1952). *NRTA Bulletin*. 1952, at which a summary of the effectiveness of the Army Medical Corps in World War II, including the specialties, was outlined and reemphasized by many high-ranking officers in neurosurgery, including the late Barnes Woodhall and Eldridge Campbell.

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Address reprint requests to: Eben Alexander, Jr., M.D., Department of Neurosurgery, Wake Forest University School of Medicine, Medical Center Boulevard, Winston-Salem, North Carolina 27157. email: ealexand@wfubmc.edu.