The Montreal Neurological Institute: Training of the First African-American Neurosurgeons

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INTRODUCTION

Driven by a dream in the late 1920s to establish an institute for the study and treatment of neurological disorders, and aided by the financial support of the Rockefeller Foundation, the legendary Dr. Wilder G. Penfield inaugurated a hospital and research center “dedicated to relief of pain and suffering and to the study of neurology” in 1934, known as the Montreal Neurological Institute (MNI) of McGill University. The MNI quickly became a model emulated worldwide for its integration of clinical neurology/neurosurgery with the basic neurosciences.

Since its inception, the MNI has trained many of the foremost leaders in the field of neurosurgery and impacted countless others, with graduates becoming chairmen at several prestigious institutions in the United States, including the University of California at San Francisco, Duke University, Stanford University, the University of Chicago, the University of Oregon, Loma Linda University, Henry Ford Hospital, and the Lahey Clinic, among others. Other graduates have propagated the MNI model throughout Canada and in many countries worldwide, such as Scotland, Brazil, Poland, China and India.

Less well known is the role of the MNI in training the first African-American board-certified neurosurgeons. This important yet relatively unknown contribution of the MNI to the field of neurosurgery is detailed in this report. Information was gathered from a comprehensive review of pertinent modern and historical records spanning the past century, both in print and in electronic form.

HISTORICAL VIGNETTE

During the early to mid-20th century, racial tensions ran high in the United States as the establishment of racial segregation was being severely challenged, often at the expense of many African-American lives. In this midst of this environment, with the doctrine of “separate but equal” prominent throughout education and the workplace, Clarence Sumner Greene Sr., MD, FACS, became one of the first African-American general surgeons in the United States, having received his MD from...
the Howard University College of Medicine in 1936 and becoming certified by the American Board of Surgery in 1943.\textsuperscript{10,12} After four years on the general surgery faculty at Howard, Dr. Greene (Figure 1) sought to pursue neurosurgery, yet despite his striking credentials, he was denied admission by several U.S. residency programs.\textsuperscript{3} However, in 1947, Penfield chose to accept him for a two-year residency in neurosurgery at the MNI during the time that Penfield and Dr. Theodore B. Rasmussen pioneered the technique of brain mapping during the surgical treatment of epilepsy.\textsuperscript{5,7,13} Making the most of the opportunity, Greene graduated in 1949, highly regarded by Penfield, one year prior to the landmark publication of \textit{The Cerebral Cortex of Man}, which resulted in the first depiction of the human somatosensory cortex (Figure 2).\textsuperscript{10,14} Returning to Howard in 1949 as chief of neurosurgery, Greene transformed neurosurgical care at Freedman’s Hospital, which had previously been managed by general surgeons. In 1953, Greene became the first African American to be certified by the American Board of Neurological Surgery (ABNS) (Figure 3), and subsequently became chairman of Howard University’s department of surgery.\textsuperscript{9,10,13,15} Unfortunately, he passed away only a few years later, in 1957, at the age of 55.

Shortly after Greene’s passing, Penfield accepted a second African American, Jesse B. Barber Jr., MD, FACS, to train in neurosurgery at the MNI, undoubtedly encouraged by Greene’s excellent performance as a resident. Dr. Barber (Figure 4) had been inspired to pursue neurosurgery by Greene while on his neurosurgery service. Like Greene, Barber received his MD from Howard University in 1948, was certified by the American Board of Surgery in general surgery, and was on the general surgery faculty at Howard.\textsuperscript{9} Accepted by Penfield in 1958, Barber began a three-year residency at the MNI. Following graduation in 1961, Barber returned to Howard and became chief of neurosurgery, a position he held for 22 years.\textsuperscript{9,16} Upon his return from the MNI, aware of the high mortality rate of stroke among African Americans, he spearheaded a stroke team modeled after the MNI, which reduced the stroke mortality rate at Freedmen’s Hospital from 65% to 15% over a three-year period.\textsuperscript{17} Additionally, he recruited many African-American medical students into neurosurgery during this time period, including Marx Bowens, Roger Countee, Joseph Epps, Bernard Robinson, Clarence Greene Jr., Alton Roberson, Charles Mosee, Wilbur Sanford, Yonas Zegege, Gary Dennis, Tyrone Hardy, Isaac Thapedi, Charles West and Earl Mills, each of whom became a successful neurosurgeon.\textsuperscript{9} In 1963, he became the third African American certified as a diplomat by the ABNS, two years after E. Latunde Odeku MD, FACS, became the second African-American board-certified neurosurgeon.\textsuperscript{10,18} Founder of the Health Care for the Homeless Project Inc., he was a tireless advocate for the medically underserved until his death in 2002 at the age of 78.

Following Barber’s completion of residency in 1961,
the MNI, now headed by Rasmussen, accepted a third African American, Lloyd A. Dayes, MD, PhD, FACS, into neurosurgery residency training. Dayes (Figure 5) received his MD from the Loma Linda University School of Medicine in 1959 and completed two years of internship at Montreal General Hospital prior to starting neurosurgery residency. Graduating in 1965, he returned to join the faculty of Loma Linda and in October 1967 became the fourth African American to be board-certified by the ABNS.3 Rising through the academic ranks, in 1987 he became chairman of Loma Linda’s Division of Neurosurgery, becoming the first African American to chair a certified neurosurgery residency program and the second MNI alumnus to chair Loma Linda’s program.3 He held this post until 1989, and presently remains professor of neurosurgery at Loma Linda, engaging in brain tumor research, with multiple publications and awards to his credit.

CONCLUSION

The willingness of the world-renowned MNI to train three of the first four African-American board-certified neurosurgeons during a time of intense racial segregation in the United States played a major role in enabling subsequent African Americans to enter and enhance the field of neurosurgery. The open-mindedness of the MNI to train qualified people for neurosurgery regardless of race or skin color is yet another reason for the MNI model to be emulated worldwide.

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REFERENCES

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