Historical Vignette

Neurosurgery at the Mount Sinai Hospital

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The Mount Sinai Hospital was founded in 1852 under the name "The Jews' Hospital." Neurosurgery at Mount Sinai Hospital can be traced to the work of Dr. Charles Elsberg. In 1932, the Department of Neurosurgery was created under the direction of Dr. Ira Cohen. The history of neurosurgery at the Mount Sinai Hospital is recounted.

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The origins of Mount Sinai Hospital date to January 15, 1852, when nine men signed the incorporation papers to found the first Jewish Hospital in the United States. Although Jews had been living in the city since 1654, a rapidly growing Jewish population created a need for hospitalization during an era of economic misery and widespread epidemics. "The Jews' Hospital in New York," located on West 28th Street in Manhattan, opened on May 17, 1855 (Fig. 1). In order to emphasize the nonsectarian policy of patient care, the name of the hospital was changed in 1866 to The Mount Sinai Hospital.

In 1870, the hospital was moved to a new building on Lexington Avenue and 65th Street. It was there, in the 1890's, that the surgical service underwent radical change. Previously, surgery had consisted primarily of amputations of breasts and limbs and the opening of abscesses. Antiseptic technique was minimal. Dr. William F. Fluhrer, who became the first head of the genitourinary service at Mount Sinai Hospital, was known to sharpen a dull knife on his shoe during an operation. But, by 1895, the practice of antisepsis and asepsis allowed the abdominal, thoracic, and cranial compartments to be opened more frequently. Surgery of the appendix, gall bladder, kidney, and prostate were frequent.6

The most active of the four surgical chiefs in the 1890's was Dr. Arpad G. Gerster. A recent immigrant, Dr. Gerster had been trained in Europe by great teachers including Rokitansky and Bilroth. He was known as a brilliant teacher and a strict disciplinarian.6 Gerster's book, Rules of Aseptic and Antiseptic Surgery, published in 1888, was the first of its kind by an American author. Although Gerster was a general surgeon, he was interested in neurosurgery, and pioneered in surgery for epilepsy.6 Among the many men he trained as adjuncts and interns were Dr. Charles Elsberg (Fig. 2) and Dr. Ernest Sachs. From 1904 to 1907, Sachs was a resident at Mount Sinai Hospital. From there he traveled to Europe to work under Sir Victor Horsley and ultimately became the world's first Professor of Neurological Sur-

Fig. 1. "The Jews' Hospital" in 1855, located at 138-140 West 28th Street, between 7th and 8th Avenues, New York.
gery, at Washington University Medical School. It may have been Dr. Gerster's interest in neurosurgery that launched the careers of these men.

In 1901, the need for more space resulted in the hospital being moved to its current location at 100th Street between Madison and Fifth Avenues. The staff of Mount Sinai Hospital at that time included such prominent doctors as the pioneering laryngologist Sidney Yankauer, Leo Buenger (of Winawer-Buenger disease — thromboangitis obliterans), Henry Koplik (who described Koplik's spots, diagnostic of measles), Emanuel Libman (who described Libman-Sacks subacute bacterial endocarditis), Nathan E. Brill (who described Brill's disease, a form of endemic typhus), and many others.

The surgical service, having been separated from the medical service in 1877, was given 154 beds in the new hospital. The Board of Directors subsequently divided the work of general surgery and, in 1914, designated ward beds for four surgical specialty services, including neurosurgery. Each of the five attending surgeons was given a specialty, in addition to general surgery, for which he was responsible. Dr. Elsberg's specialty would be neurosurgery.

Dr. Elsberg's work and interest soon became synonymous with the growth of neurosurgery in New York. Born in New York City on August 24, 1871, Dr. Elsberg graduated from the College of the City of New York in 1890. In 1893, he received his medical degree from the College of Physicians and Surgeons, Columbia University, and subsequently served his internship at Mount Sinai Hospital. He created the first pathology laboratory in the Lexington Avenue hospital, and wrote an early paper on the serum diagnosis of typhoid fever while serving as assistant pathologist. His inventions included a cannula for direct artery-to-vein transfusions, as was done in those days. In 1910, he introduced the clinical practice of insufflation anesthesia with the first machine for the administration of intratracheal anesthesia. Dr. Elsberg devised several rongeurs for performing laminectomies. He also developed special cannulas and grooved directors for use in brain abscesses. Known as a shy family man with no hobbies, Dr. Elsberg was admired as a rapid surgeon and an excellent teacher. In 1911, he was made associate surgeon at Mount Sinai Hospital, and then attending surgeon in 1914. He helped to found The Neurological Institute in New York in 1909, and took an active part in planning the building and operating rooms. He was known frequently to climb the unfinished building to watch its progress.

Dr. Elsberg was a prolific writer, publishing four books and some 150 medical articles. His first neurosurgical publication was a report, in 1904, of two cases of cerebellopontine angle tumors. In 1911, he reported a series of 43 laminectomies. While at Mount Sinai, Dr. Elsberg's most brilliant contributions were in the advancement of surgery of the spinal cord. In 1916, he published Diagnosis and Treatment of Surgical Diseases of the Spinal Cord and Its Membranes and, in 1925, Tumors of the Spinal Cord. Along with Drs. Harvey Cushing and Charles Frazier, Dr. Elsberg founded the Society of Neurological Surgeons in 1920, and served as the third President in 1923. In 1929, Dr. Elsberg resigned from Mount Sinai Hospital to devote his time to The Neurological Institute. He retired from active hospital service only 8 years later and died in 1948.

Dr. Elsberg was succeeded by Dr. Harold Neuhof at Mount Sinai Hospital. As Dr. Neuhof's fascination with thoracic surgery grew, his interest in neurosurgery waned. For this reason he assigned the responsibility for neurosurgical operations to his associate, Dr. Ira Cohen (Fig. 3). Just 3 years later, in 1932, the Neurosurgical Service was set up as a distinct department under Dr. Cohen. He believed that the diagnostic and surgical needs of neurosurgical cases had become sufficiently unlike those encountered in other specialties to warrant a separation from the general surgery service. Until the 1930's, he noted, "...the operating room equipment, instruments, and routine...[in neurosurgery] are in the main the same as those required for general surgery."

Dr. Cohen was born in 1887 in Long Branch, New Jersey. He graduated from Columbia University in 1909 and received his medical degree in 1911. He interned at Mount Sinai Hospital from 1911 to 1914 and was adjunct surgeon from 1920 to 1932, when he was appointed attending neurosurgeon. During World War I, Dr. Cohen was a major in the Army, and served as Surgeon to Base Hospital No. 3 (the Mount Sinai Unit). During that time, he suffered a head wound above his right brow which caused a skull fracture and a dural tear; awake and with a mirror in his hand, he instructed his colleagues as they debrided and repaired his wound.

Dr. Cohen served as department head until 1950. His tenure saw the beginning of the resident training pro-
gram in 1947. The first resident, Dr. Aron J. Beller, went on to become Chairman of the Department of Neurosurgery at Hadassah Hospital in Israel. Dr. Cohen was also President of the Medical Board during World War II. He died in 1957.

Although Dr. Sidney W. Gross held the title of Acting Chairman for 2 years, Dr. Leo Davidoff (Fig. 4) became Chairman of the Department of Neurosurgery in 1951 and continued until 1955. Dr. Davidoff had emigrated from Latvia with his family when he was 8 years old. He attended Harvard College and Harvard Medical School. After an internship in general surgery, he continued with a residency in neurological surgery at Peter Bent Brigham Hospital. He was the only Jewish neurosurgeon trained by Dr. Cushing. After his residency, in 1925, he traveled as surgeon with the Byrd-MacMillan Antarctic Expedition.

Dr. Davidoff held academic appointments at almost all of the hospitals in New York, including the Jewish Hospital of Brooklyn, Montefiore Hospital, Beth Israel Hospital, and The Neurological Institute. He served as President of the Society of Neurological Surgeons in 1951, and published over 200 papers and 12 books, including *The Normal Encephalogram and The Abnormal Pneumoencephalogram* (1937).

The history of the neurosurgical service cannot be presented without mention of the pre-eminent neurology service at Mount Sinai Hospital. The neurology service was created in 1900 with the appointment of Dr. Bernard Sachs, discoverer with Warren Tay of Tay-Sachs disease, and uncle of Dr. Ernest Sachs. He was succeeded by Dr. Israel Strauss, and then by Drs. Israel Wechsler, Morris Bender, and Melvin Yahr, respectively. Dr. Sidney Gross was named Department Chairman in 1956. That same year the American Medical Association (AMA) approved Mount Sinai Hospital for a 3-year residency training program in neurosurgery. Two years later the program was expanded to 4 years under the auspices of the American Board of Neurological Surgery and the AMA. Dr. Gross had been with the department since 1938 when he was named adjunct attending surgeon. Following the invention of the cerebral angiogram by Moniz in 1937, Gross introduced the use of Diodrast for cerebral arteriography in the United States, eliminating the need for radioactive Thorotrast. Dr. Gross retired in 1970, and was succeeded by Dr. Leonard I. Malis (Fig. 5).

Dr. Malis was born in Philadelphia. After receiving a medical degree from the University of Virginia in 1943, he served as a captain in the Medical Corps and, by the end of World War II, was the head of his hospital’s neurological unit. After leaving the Army, he completed a residency in neurology at Mount Sinai Hospital under Dr. Israel Wechsler, and became the second and last neurosurgical resident to train under Dr. Cohen. After a fellowship at Yale University under Dr. John Fulton, Dr. Malis returned to Mount Sinai Hospital as assistant attending surgeon.
Along with Herbert Oliveira, Dr. Huang was hailed as “an esteemed teacher of anatomy of the brain in neuroradiological and microneurosurgical perspectives.”

Dr. Malis developed the full-column technique of Pantopaque myelography in 1953. He was also the first to describe the use of the Bragg peak energy release in neural tissue. Among Dr. Malis’ other noteworthy accomplishments are the development of the dedicated bipolar spark-gap coagulating unit, which was introduced in 1955. Subsequent microprocessor technology was adapted to produce a new generation of bipolar coagulators, now including autoirrigation and an array of titanium microsurgical instruments. Dr. Malis has been a pioneer in the design of stereoscopic surgical loupes and fiberoptic headlamps, and he holds numerous patents.

Dr. Malis retired as Chairman in July, 1991, but continued his active neurosurgical practice as Professor of Neurosurgery. He was succeeded by Dr. Kalmon D. Post as Chairman of the Department of Neurosurgery. Dr. Post finished his residency under Dr. Joseph Ransohoff at New York University Hospital in 1975.

Over 1000 neurosurgical operations were performed at Mount Sinai Hospital in 1992. The department is pursuing clinical specialization in a number of areas including skull base, vascular, epilepsy, and spinal instrumentation surgery.

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