

Geza de Takats 1892-1985



Vascular surgery as we know it today had its beginnings in the great conflagration of World War II. In the years following this conflict, Geza de Takats was a prominent leader in vascular surgery who profoundly influenced the development of this specialty. From his war time experience came his contributions on the use of direct and indirect heat to increase blood flow in wounded extremities, the treatment of posttraumatic sympathetic dystrophy, and treatment of causalgia. As young surgeons began to explore arterial reconstruction, Geza de Takats investigated the fundamental causes of the conditions which were being treated. His investigations in the physiology of heparin and heparin tolerance led to a remarkably incisive description of the therapy which we now known as low-dose heparin prophylaxis of thromboembolic disease. His death on October 6, 1985, marked the end of a career which spanned two World Wars and assisted in directing the emergence of vascular surgery as a distinct subspecialty of general surgery.

It could not have been predicted that a Hungarian boy born in Budapest on December 9, 1892, would later become president of every medical organization and surgical society in which he took an interest. In fact, a review of his life reads more like fiction than biography. As his father and grandfather had been ophtalmologists, it was appropriate that young de Takats would enter the Medical School of the University of Budapest in 1910. In his third year, he studied with Aschoff, the great pathologist in Freiburg. While he was serving compulsory military service in Bozen, Tirol, the First World War broke out in 1914. His unit, the second Kaiserjäger

Regiment, was promptly switched to the Dolomites on the Italian Front. Within a year, the Austro-Hungarian Army had suffered severe losses on the Russian Front due to typhus, and the young de Takats was recalled to complete his medical studies prior to being tranferred to the Russian Front and then to Belgrade, headquarters for the Balkan operations of the Austro-Hungarian Forces. This experience influenced him profoundly away from ophtalmology toward surgery as he became exposed to the massive war casualties of that era.

Following demobilization in 1918, he continued his surgical studies at the First Surgical Clinic of the University of Budapest, and then in an exchange residency at the University of Copenhagen under Professor Rovsing. By 1923, His father had become Dean of the Medical School in Budapest, and young Geza was awarded a traveling fellowship of the Rockefeller Foundation. With this entrée into the international surgical world, he visited the clinics of Harvey Cushing, Allen O. Whipple, and Charles Frazier, and the Mayo Clinic, where he worked in the experimental laboratory of Frank Mann. There, he met Carol Beeler, whom he married on December 21, 1924. Young Dr. and Mrs. de Takats returned to the Department of Surgery at the University of Budapest, during what Dr. de Takats referred to later as *« the period between the First and Second Wold Wars, when Hungary was buffeted, mutilated, and disrupted by Russians, Rumanians, and inner disputes »*. In referring to his personal life at the time, he further reminisced, *« I still remember my feeling of being in a sinking ship, the catastrophe occurring 15 years later with Nazi and communist surges of conflict »*.

After a year in Budapest, he returned to the United States, being appointed to a Fellowship in Surgery at Northwestern University Medical School in Chicago, where he founded the Vascular Clinic in 1926. In 1935, he moved to the University of Illinois College of Medicine, also in Chicago, where he became Clinical Professor in 1952 and Emeritus Professor in 1960. As his surgical career developed, he became a member of the Vascular Subcommittee of the National Research Council, helped to found the Chicago Artery Bank in the earliest days of direct arterial reconstruction, and joined others in founding the Society for Vascular Surgery (President, 1953). He continued leadership on the vascular scene, becoming President of the North American Chapter of the International Cardiovascular Society in 1952 and later, President of the International Cardiovascular Society itself in 1965. Other presidencies to which he was elected included the Chicago Surgical Society, the Chicago Heart Association, and not surprisingly, the Chicago Literary Club.

As an author, he published books on local anesthesia (1928), thromboembolic disease (1955), and vascular surgery (1959) [1-3]. The latter volume was the first textbook on this subject and spurred a new interest in this field, as well as establishing standards of excellence in publication.

It is fascinating to reread some of the publications of Geza de Takats. His 1939 and 1940 articles on pulmonary embolism [4, 5] are striking examples of deductive reasoning, in which experimental observations are given important clinical relevance. His investigations into homeostatic balance between thrombosis and thrombolysis were prescient, and his description of heparin tolerance published in *Surgery, Gynecology & Obstetrics* in 1943 [6], was the first to show that no two people react exactly alike

to heparin therapy. His investigations showed quite clearly that the heparin response fluctuated within an individual, as well as between individuals, and that thrombotic and hemorrhagic complications of therapy were due to ill-regulated dosage. These investigations directly led to the modern conclusion that continuous infusion with accurate regulation of the thrombotic system is the only way to give heparin.

Geza de Takats' literary style in scientific publications was distinctive. His description of episodic digital ischemia is illustrative: « *Raynaud's phenomenon creates a feeling of uncertainty and apprehension in patient and physician alike. Is it a fleeting, harmless color change of hypometabolic girls occurring in cold, damp weather, or is it the forerunner of an ominous collagen disease?* » [3]. For those who knew him, Geza de Takats is not remembered solely for his scientific contributions, but also for his humor, his spirit, his humility in the face of greatness, his wit, and his keen mind, all of which were present even during the last week of his life.

John J. Bergan

REFERENCES

1. *Local Anesthesia. A Short Course for Students and Surgeons*. Philadelphia, Saunders, 1928.
2. *Thromboembolic Disease*. Springfield, IL, Charles C Thomas, 1955.
3. *Vascular Surgery*. Philadelphia, Saunders, 1959.
4. Pulmonary embolism. *Surgery*, 1939, 6, 339-367.
5. Pulmonary embolism: suggestions for the diagnosis, prevention and management. *JAMA*, 1940, 114, 1415.
6. Heparin tolerance: a test of the clotting mechanism. *Surg Gynecol Obstet*, 1943, 77, 31-39.

Department of Surgery, Northwestern University Medical School,
303 East Chicago Ave, Chicago, Illinois 60611.

