

## IN MEMORIAM



## Oscar D. Ratnoff, MD

The son of a prominent Brooklyn pediatrician, Oscar Ratnoff received his medical degree in 1939 from Columbia College of Physicians and Surgeons. Following additional training at Johns Hopkins, Harvard Medical School, and Montefiore Hospital in New York, he joined the faculty of Case Western in 1952, rising to the rank of professor of medicine. He remained active in his research until retiring in 2001.

Upon arriving at Case Western, a series of clinical observations caused him to initiate investigations that led to attempts to isolate proteins that were lacking in samples displaying

deficiencies of coagulation. Working with Earl Davie, a biochemist, Ratnoff used complementation experiments to isolate a plasma protein, later termed Factor XII, which was deficient in the original clinical samples. Subsequent experiments permitted Ratnoff and his collaborators to identify two additional proteins, plasma thromboplastin antecedent (associated with Factor XI) and Factor IX. Their work culminated in the formulation of a hypothesis that encapsulated the elements of the “coagulation cascade”. This concept proposed that combinations of protein factors, phospholipids, and calcium form com-

plexes in the bloodstream that are activated in a cascade-like fashion during coagulation. In this process, individual proteins are converted from inactive precursors to active enzymes that serve to catalyze the deposition of fibrin, an insoluble protein that is essential to coagulation.

Dr. Ratnoff was widely recognized as an outstanding research mentor, educator, and scholar. He belonged to and/or served as president of National Academy of Sciences, American Society of Hematology and Central Society for Clinical Research. He held the elite designation of “Master” in the American College of Physicians.