Danish biochemist Carl Peter Henrik Dam was awarded the 1943 Nobel Prize in medicine or physiology for his discovery of vitamin K, the blood coagulating factor. He shared the prize with American biochemist Edward A. Doisy (1893-1986), who, working independently in St. Louis, Missouri, elucidated the chemical nature of the vitamin. Dam's discovery was of great importance because it advanced the understanding of blood coagulation and produced a new lifesaving therapy for bleeding diseases. Dam also did research on cholesterol metabolism, vitamin E, lipids, growth factors, and gallstone formation.

Dam was born on Feb. 21, 1895, in Copenhagen, Denmark. His father was a pharmaceutical chemist and a writer of biographic and historical books; his mother was a teacher. In 1920, Dam completed a 6-year program in chemistry at the Polytechnic Institute in Copenhagen and received an M.S. degree. He then joined the Royal School of Agriculture and Veterinary Medicine in Copenhagen and was a professor of chemistry from 1920 to 1923. In 1923, he joined the faculty of the University of Copenhagen, an affiliation he held until 1941. In 1925, he studied microchemical analysis with Austrian chemist Fritz Pregl (1869-1930) at the University of Graz (Austria). Dam returned to Copenhagen in 1928 and was appointed an assistant professor at the university; he became an associate professor in 1929. Dam was awarded a Rockefeller Fellowship, which he used to study at the University of Freiburg (Germany) with biochemist Rudolf Schoenheimer (1898-1941) from 1932 to 1933 and in Switzerland with chemist Paul Karrer (1889-1971) in 1935. In 1934, Dam earned his doctorate in biochemistry from the University of Copenhagen with a thesis on the biologic importance of sterols.

His interest in steroids (or sterols) prompted Dam to study the metabolism of cholesterol and fat-soluble vitamins. Little was known about fat-soluble vitamins before Dam's work. Sometime during the late 1920s, Dam began his study of the formation and metabolism of cholesterol. During these studies, he found that chickens that had been fed a certain synthetic diet showed signs of defective blood clotting. In 1934, after much experimentation with the addition of vitamin C and other known vitamins, he concluded that a hitherto unknown factor was essential for the coagulation of blood. He called this substance "vitamin K" (from the first letter of the Danish and German word koagulation), thus symbolizing its ability to coagulate blood and to prevent hemorrhage. Within a year after this discovery, Doisy elucidated the chemical nature of vitamin K.

Throughout the 1930s, Dam studied the medical applications of vitamin K preparations. He found that the use of vitamin K reduced the danger of death by bleeding in certain types of surgical procedures. He also found that vitamin K was important in the care of newborns. Ordinarily, bacteria found in the intestinal tract produce vitamin K, which is absorbed and used by the organism. An interval of time is necessary before these bacteria establish themselves in the intestinal tracts of neonates, and during this interval, the newborns, especially those born prematurely, are at risk for hemorrhage. For this reason, injections of vitamin K are sometimes given to the mother shortly before delivery or to the newborn immediately after birth. Adults with certain liver, bile duct, and intestinal problems also benefit from vitamin K.

Shortly after World War II (1939-1945) began in Europe, Dam left Denmark on a lecture tour in the United States and Canada. When Germany invaded Denmark in April 1940, Dam decided to remain in the United States. In 1941, he was a researcher at Woods Hole Marine Biology Laboratory at Falmouth, Massachusetts. From 1942 to 1945, he worked at the University of Rochester in New York. In 1945, he became an associate member of the Rockefeller Institute for Medical Research (now Rockefeller University). In 1946, Dam returned to Denmark as a professor of biochemistry at the Polytechnic Institute. From 1956 to 1963, Dam directed the biochemical division of the Danish Fat Research Institute in Copenhagen.

Dam died in Copenhagen on Apr. 17, 1976, at the age of 81 years. He was honored on a stamp issued by the Maldives Islands in 1995.

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