

George Rosenkranz, 102, a Developer of the Birth Control Pill, Is Dead

By Robert D. McFadden

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George Rosenkranz, a chemist who, with two colleagues, altered human reproductive history in a Mexico City lab in 1951 by synthesizing the key ingredient in what became the oral contraceptive known as “the pill,” died on Sunday at his home in Atherton, Calif. He was 102.

His grandson Adrian Rosenkranz confirmed the death.

Besides a seminal contribution to birth-control science, Dr. Rosenkranz’s team achieved the first practical synthesis of cortisone, the drug used to treat rheumatoid arthritis and reduce painful inflammations in muscles and joints. He was also a world-class contract bridge champion whose wife was kidnapped during a tournament in Washington in 1984 and ransomed for \$1 million.

A Hungarian Jew and Swiss-trained chemical engineer who fled fascism as World War II engulfed Europe, Dr. Rosenkranz took refuge in Cuba and after the war became the research director of Syntex, a pharmaceutical lab in Mexico. There, in a scientific backwater, he assembled a small group of chemists who laid the groundwork for revolutionary advances in steroid hormone drugs.

Scientists had long known that high levels of estrogen and progesterone effectively inhibited ovulation. But synthesizing those hormones from animal or plant extracts had been too expensive and relatively ineffective for use in commercial oral contraceptives. In the early 1950s, a race was on among pharmaceutical competitors to crack the chemical code for an ovulation restraint.

After long experimentation, Dr. Rosenkranz and his colleagues, the chemist Carl Djerassi, an Austrian refugee, and their student lab assistant, Luis E. Miramontes, achieved a breakthrough by synthesizing a progestin they called norethindrone. It was Oct. 15, 1951, a date later recorded for posterity on the patent all three shared, although it was hardly clear at first what they had achieved.



Dr. Rosenkranz with the first box of Syntex's oral contraceptive Norinyl.

Rosenkranz Family

Norethindrone, sometimes called norethisterone, proved to be an effective pregnancy inhibitor, and it was inexpensive to produce. But instead of an advance for birth control, the team regarded it as a fertility treatment, and it was initially developed for pregnant women to avert miscarriages. Five years of trials were needed to demonstrate its safety and effectiveness for the birth control pill.

Even then, some drug companies were reluctant to market the pill, fearing boycotts of their products by religious groups and others opposed to birth control. In the 1960s, however, research by M. C. Chang, Gregory Pincus, John Rock and others proved its efficacy, and the pill — technically called the combined oral contraceptive — was developed and marketed by Syntex, G. D. Searle, Johnson & Johnson and other companies.

The use of the pill spread rapidly, leading to vast economic and social effects. Women gained unprecedented control over fertility, separating sex from procreation. Couples were able to plan pregnancies and regulate the size of their families. Women could plan their educations and careers. But the pill also generated intense debates over promiscuity and the morality of birth control. The Roman Catholic Church, in particular, stressed its bans on artificial contraception.

“I leave to others any debate about the ultimate worth of the pill,” Dr. Rosenkranz said in 2001, accepting an award from the University of Mexico on the 50th anniversary of his synthesis. “We must never forget that original research is the lifeblood of the pharmaceutical and biotechnology industry and that an interdisciplinary team effort is the indispensable motor of significant research achievement.”

He was born Gyorgy Rosenkranz in Budapest on Aug. 20, 1916, the only child of Bertalan and Etel (Weiner) Rosenkranz. His prosperous parents filled his childhood with an appreciation of art, music, theater and contract bridge. He had a gift for languages, eventually becoming fluent in a half-dozen. But scientific studies, particularly chemistry, held a stronger appeal.

Dr. Rosenkranz, right, explaining a chemical process at Syntex's headquarters in Mexico City in the 1950s. Rosenkranz Family

At 17, he enrolled at the Swiss Federal Institute of Technology in Zurich, where he studied organic chemistry under the future Nobel laureate Leopold Ruzicka. In 1937, he became his mentor's assistant and earned his doctorate in 1940. With Hitler's armies already enveloping much of Europe, Dr. Rosenkranz and other Jewish students resolved to quit the Continent.

Dr. Ruzicka arranged an academic post for him in Quito, Ecuador, but his trans-Atlantic journey ended in Cuba in December 1941, when America's entry in World War II left him stranded in Havana. He joined a Cuban laboratory, where he developed treatments for venereal diseases and studied hormone synthesis.

In 1945, he married Edith Stein, a native of Austria who, like her husband, had fled the Nazis and landed in Cuba. They had three sons, Roberto, Gerardo and Ricardo. Gerardo died in 2011.

Dr. Rosenkranz is survived by his wife; his sons Ricardo and Roberto; and nine grandchildren.

Dr. Rosenkranz's work on hormone synthesis drew the attention of scientists abroad, and in 1945 he was recruited to join Syntex in Mexico City. He spent the rest of his working career there, and became a naturalized Mexican in 1949.

Merck & Company first produced cortisone commercially in 1948 or 1949 by a costly and complex process of chemical transformations. Dr. Rosenkranz and chemists at Harvard and Merck raced with one another to synthesize cortisone in a simpler, inexpensive process for industrial-scale production. In 1951 Dr. Rosenkranz claimed victory, publishing a paper that edged out his competitors by weeks.

Dr. Rosenkranz at a recent Rosenkranz Prize Symposium at Stanford University. The symposium honors research projects that address the health care needs of the world's most vulnerable populations. Ryan Zhang/Chrisman Studios

As oral contraceptives gained worldwide popularity, Dr. Djerassi lectured widely to promote the pill and became a wealthy celebrity. He faced controversies over its side effects, including risks of blood clots, cancer and excessive menstrual bleeding. But manufacturers cut estrogen and progestin doses to reduce risks. He wrote books, taught at universities, collected art and died in 2015.

Dr. Miramontes, who earned a degree in chemical engineering from the University of Mexico, won many patents for pharmaceutical chemistry and taught at various universities. He died in 2004.

Dr. Rosenkranz became chief executive and chairman of the Syntex Corporation, which grew into a diversified international pharmaceutical and biotechnology company with a market capitalization of \$5 billion. He retired in 1981. He wrote hundreds of articles and scientific papers, was named in 150 patents and was honored by scientific groups and the Mexican government.

“George and Edith Rosenkranz: A Memoir of Their Lives and Times,” appeared in 2011.

As a contract bridge player, Dr. Rosenkranz won a dozen North American championships. He created bidding systems, wrote 15 books on bridge and was inducted into the American Contract Bridge League Hall of Fame in 2000. Mrs. Rosenkranz, one of Mexico’s top players, often accompanied him on tournament trips.

In July 1984, attending a tournament in Washington, Mrs. Rosenkranz, 60, was abducted at gunpoint by two men outside her hotel, thrown into a van and held captive in a motel in Norfolk, Va., for two days. After her husband dropped a \$1 million ransom in Alexandria, Va., she was released, shaken but uninjured, near the White House.

Three men, including a bridge player known to a regular partner of Dr. Rosenkranz in national competitions, were seized by F.B.I. agents minutes later, and the money was recovered. Agents had been following the abductors’ van since the money had been picked up, and had pounced only after Mrs. Rosenkranz’s safety was assured.

“I was terrified,” Mrs. Rosenkranz told federal court jurors in Washington, after testifying that the men had threatened to kill her unless the ransom was paid. The suspects, Glenn Wright, 42, the bridge player described as the crime’s mastermind, and Orland Tolden, 26, both of Houston, and Dennis Moss, 27, of Cocoa, Fla., were convicted of the kidnapping and sentenced to long prison terms.

Correction: June 23, 2019

An earlier version of this obituary misstated the given name of George Rosenkranz’s mother. She is Etel (Weiner) Rosenkranz, not Stella. It also misstated the given name of one of his sons. He is Gerardo Rosenkranz, not Geraldo.

Correction: June 24, 2019

Because of an editing error, an earlier version of this obituary misspelled the name of the town in California where Dr. Rosenkranz lived. It is Atherton, not Atheron.

Jaclyn Peiser contributed reporting.

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