On August 29, 1904, Werner Theodor Otto Forssmann was born in Berlin, the only child of a lawyer. His father, who encouraged a broad education and emphasized traditional Prussian values such as duty and honesty, was killed in 1914 on the Eastern Front (World War I). Werner’s grandfather was a successful businessman, so the family did not suffer financial difficulty. An uncle, a physician living in a town near Berlin, became a mentor for young Werner.

After graduating from Askanisches Gymnasium, one of the best secondary schools in Berlin, Forssmann entered Friedrich-Wilhelms University in Berlin to study medicine. In 1928, after graduation, he went to Auguste-Viktoria Hospital in Eberswalde (near Berlin) for clinical training in surgery. He hoped to enter academic medicine later on – a common pathway at the time.

Forssmann was aware of studies in which horses and other animals had undergone intra-arterial catheterization in order to measure cardiac pressures. He envisioned human catheterization both for diagnostic purposes and to facilitate drug administration. Richard Schneider, Chair of Surgery at Auguste-Viktoria Hospital, encouraged Forssmann to study catheterization in animals, but the headstrong Forssmann decided this would be a waste of time.

In 1929, he passed a ureteral catheter into his left antecubital vein under local anesthesia, and with fluoroscopic guidance advanced it for 65 cm until that tip of the catheter was lodged in the right atrium. During the first attempt, a co-worker who had helped him with venous access convinced him to stop prematurely because of the risks, but the second attempt, on his own, was successful. Forssmann then walked to the radiology department to obtain a chest radiograph that recorded the position of the catheter. When Schneider learned of the self-experimentation, he criticized young Forssmann, but he encouraged further experimentation focused on therapeutic drug delivery. A second cardiac catheterization was performed on a terminally ill patient – during which drugs were delivered directly to the right atrium.

Forssmann published results of his experiments later in 1929. He was charged with plagiarism by the Rudolf Virchow Hospital chair of surgery, who claimed to have performed intra-arterial drug delivery in 1912, but these claims were not substantiated.

Forssmann was invited to Berlin’s Charité Hospital to work with noted thoracic surgeon Ferdinand Sauerbruch; however, Sauerbruch dismissed Forssmann when he learned about his auto-experimentation, stating that Forssmann could perhaps lecture in a circus, but never in a respectable German university. Forssmann returned to Schneider and to Eberswalde, but Sauerbruch had second thoughts because he invited Forssmann back to Charité Hospital in 1931 to conduct research. However, Forssmann was forced to do clinical work at the level of a surgical intern and was discharged in 1932 because he did not meet Sauerbruch’s scientific expectations.

Forssmann joined the National Socialist (Nazi) Party in 1932, which was very popular in his native Prussia. His daughter later claimed this poor decision was a lifelong source of grief and anguish for Forssmann.

In 1933, Forssmann went to Rudolf Virchow Hospital in Berlin for training in urology under Professor Karl Heusch. Four years later, he became the Vice Chair of Surgery at the Moabit Hospital, an inner-city hospital in Berlin. The chair of the Moabit Hospital was Kurt Strauss, a high-ranking Staatssicherheitspolizei (SS)
officer. Strauss introduced Forssmann to Karl Gebhardt, Heinrich Himmler’s personal physician. Gebhardt, who was later sentenced to death during the Nuremberg trials for war crimes, including unethical medical experimentation, offered to help Forssmann by providing a constant supply of human research subjects. Forssmann refused, but was criticized by hospital officials for treating Jewish patients. In order to escape the controversy, he joined the Wehrmacht — the unified armed forces of Nazi Germany — as a medical officer.

He was captured in 1945 and became a prisoner of war of the United States. After his release he was not allowed to practice medicine because of his former party membership. He worked as a lumberjack in the Black Forest. During these years his wife, Elsbet Engel, also a physician, worked as a general practitioner to help support the family. In 1948, the French Occupation Administration allowed him to find a position in medicine, but this was difficult. From 1950 onward, he worked as a urologist at Bad Kreuznach, a town in the Rheinland-Palatinate region of West Germany.

In 1954, Forssmann was awarded the Leibniz Medal of German Academy of Science. In 1956, as a pioneer of interventional cardiology, Werner Forssmann shared the Nobel Prize with André Frédéric Cournand and Dickinson W. Richard. Forssmann’s family was in difficult financial straits at the time and the Nobel Prize was an unexpected windfall. In his memoirs, he compared receiving the prize with a parish priest who suddenly became the pope overnight.

After receiving the Nobel Prize, Forssmann was given numerous honorary professorships. In 1969, he retired and moved to a village in the Black Forest. On June 1, 1979, he died of heart failure in a small country hospital in Schopfheim, West Germany. On the 50th anniversary of the Nobel Prize, Werner Forssmann was honored philatelically on a commemorative stamp issued by Germany (Scott number 2403) on November 9, 2006.

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