

PIONEERS IN INTERVENTIONAL RADIOLOGY



WERNER FORSMANN

*Most celebrated self-experimenter
who first pioneered cardiac
catheterisation in man*

- German surgeon
- During surgery training, experimented on human cadaver and realized how easy it was to guide a urological catheter from an arm vein into the right atrium.
- In 1929, at the age of 25, while his training at Eberswalde, a small town near Berlin, he self catheterised his heart
- He inserted a ureteral cannula into his antecubital vein for 65 cm using fluoroscopic control and a mirror and then climbed stairs to the X-ray department, where a chest radiograph showed the catheter lying in his right atrium.
- Forssmann wanted to use this technique in emergencies to administer drugs directly into the heart, and also to study the heart for diagnostic purposes.
- He catheterised his own heart on six more occasions and also injected the contrast material, Uroselectan, in 1931 in an attempt to produce an angiogram.
- Received and shared, the coveted Nobel Prize (for physiology and medicine) in 1956 with New York surgeons André Courmand and Dickinson Richards “for their discoveries concerning heart catheterization and pathological changes in the circulatory system”

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SVEN-IVAR SELDINGER

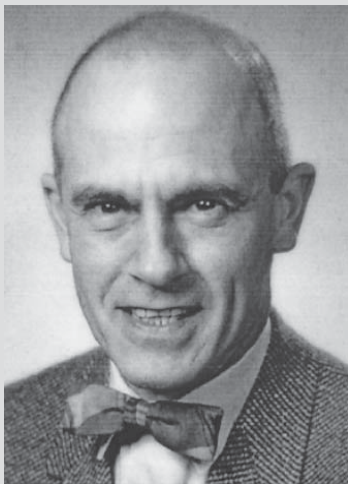
*Pioneering vision in percutaneous entry
techniques*

- Era : 1921-1999
- Born in Mora, Sweden
- Just over 30 years ago, Sven-Ivar Seldinger described a simple method of introducing a catheter percutaneously which has revolutionized radiology
- Graduated in medicine from the Karolinska Institute in 1948
- Created a Percutaneous entry technique, while experiencing “an acute attack of common sense” as described in his own words
- “Now! After an unsuccessful attempt to use this technique, I found myself, disappointed and sad, with three objects in my hand - a needle, a wire and a catheter - and ... in a split second I realized in what sequence I should use them: Needle in, wire in, needle off, catheter on wire, catheter in, catheter advance, wire off”.
- In 1953, Dr. Seldinger published the description of a percutaneous entry technique in the journal, Acta Radiologica.
- Percutaneous entry technique required only a thinwall introducer needle, a wire guide and a plastic preformed catheter
- Pioneered in applying his technique to localization of tumors by arteriography, selective renal angiography, percutaneous transhepatic cholangiography, and portal venography.
Further applied in interventional radiology, urology, anesthesiology and critical care medicine.

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- *Image Source: Doby TA Tribute to Sven-Ivar Seldinger 1984 AJR 142:1-3*
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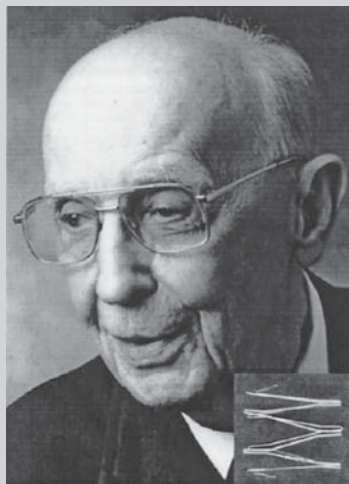


CHARLES T. DOTTER
Father of Interventional Radiology

- Era : 1920-1985
- Born in Boston, Massachusetts.
- Studied Medicine and Radiology at Cornell University, from 1950 to 1952
- Served as Professor and Chairman of Radiology at the University of Oregon Medical School for 33 years.
- Considered as the father of Interventional Radiology
- Stated in Czechoslovak Radiological Congress on June 19, 1963 that "the angiographic catheter can be more than a tool for passive means for diagnostic observation; used with imagination, it can become an important surgical instrument."
- First described transluminal angioplasty in 1964
- Modified Seldinger technique for therapeutic purposes
- European radiologists institutionalized a new term, "Dottering" of patients
- Four gold medals in radiology
- Nominated for Nobel Prize in Medicine in 1978

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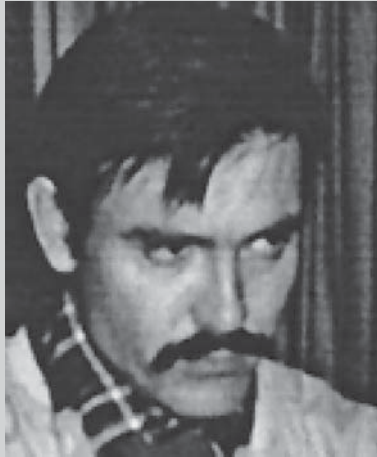
CESARE GIANTURCO
Researched balloon angioplasty technology

- Era : 1905-1995
- Born in Naples, Italy
- Graduated in medicine from the University of Naples in 1927.
- Resident radiologist at the University of Rome from 1927 to 1929, resident pathologist at the University of Berlin from 1929 to 1930
- Founding member and Chief of Radiology at the Carle Hospital and Clinic from 1934 to 1968
- In 1968, became Professor of Radiology at the University of Texas System Cancer Center, M.D. Anderson Hospital and Tumor Institute
- Researched balloon angioplasty technology in 1967, outfitting cannula with a shrink tube balloon
- Co authored with J.H. Anderson and S. Wallace, first published arterial occlusion using coiled spring "wooly tails" in 1975
- Created the "bird's nest" vena cava clot filter and biliary and vascular stents, utilizing percutaneous entry placement techniques
- Dr. Gianturco received the gold medal of the Radiological Society of North America in 1970

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ANDREAS GRUENTZIG

Forever altered the role of treatment of cardiovascular disease.

- Era : 1939–1985
- Swiss German cardiologist
- Created a device that would revolutionize interventional radiology and jump-start interventional cardiology.
- Developed balloon catheter made of polyvinyl chloride
- Performed the first successful balloon dilations of coronary arteries / procedure of coronary angioplasty in 1976 on an awake human patient.
- Developed a balloon that, when inflated conformed to the shape of a blood vessel
- Widely used to open up blocked blood vessels all over the body.
- Dr Andreas Gruentzig liked flying and owned a twin-engine plane that took him back and forth between Atlanta and Sea Island and was unfortunately killed on one of these trips when he was just 46 years old.

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