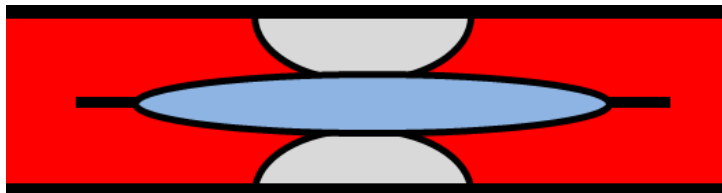


Angioplasty Beginnings..40 Years Later

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Roots of cardiac catheterization can be traced back as far as the 18th century, when brass pipes were used to measure pressures in a horse's heart. Over the next 200 years, coronary angiography evolved greatly, making it possible to image the coronary arteries in humans [1]. Angiography gave rise to angioplasty inadvertently in the 1960s, providing the stepping-stone for therapeutic potential in atherosclerosis. Drs. Charles Dotter and Melvin Judkins performed the first peripheral angioplasty in a patient that had presented with gangrene and did not wish to have her leg amputated. Rigid polyethylene catheters were used to dilate the vessel; this intervention saved the patient's leg [2].

About a decade later, Dr. Andreas Gruentzig, a cardiology fellow, performed the first human coronary angioplasty on an awake patient in Zurich, Germany in 1977; the patient was Mr. Dolf Bachmann, then a 38 year old patient with angina pectoris. This brought upon the advent of revolutionizing nonsurgical methods for revascularization.

Manuscript submitted September 24, 2018, accepted September 28, 2018.

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<http://cardiofellows.com/newsletter-september-2018.html>

Initially, the concept of coronary angiography and then angioplasty received significant criticism and skepticism. After witnessing Dr. Gruentzig's success, only then did the medical community realize the impact that percutaneous revascularization had on the treatment of coronary artery disease. Despite the success of the procedure, the equipment that was used consisted of 9F guiding catheters that were difficult to manipulate, balloons that ruptured quickly, and guidewires that could not be separated from the catheter. Early in 1980s, newer technology brought improved equipment for coronary angioplasty. By this time, Dr. Gruentzig had brought his ideas to the Emory Hospital in Atlanta, GA, completing 2500 angioplasties within 5 years. At the age of 46, Dr. Gruentzig passed in a tragic plane crash, leaving behind novel ideas of advancing interventional cardiology: laser angioplasty, stents, atherectomy and intracoronary ultrasounds.

In the years that ensued, the visionary ideas of Dr. Gruentzig became reality. Many interventional devices, including rotational atherectomy, lasers and stents, were invented, improved and promptly put in clinical use, thereby revolutionizing interventional cardiology. By 1997, more than one million angioplasties had been performed worldwide. Over the years, the extent of technological advances has refined this procedure that was once thought to be but impossible in humans. Last year (2017) marked the 40th anniversary of coronary angioplasty, which currently enjoys a first line recommendation for the treatment of stable coronary artery disease and acute coronary syndrome [3].

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KEYWORDS: Angioplasty; History; Coronary Artery Disease

Reference this article as:

Sachdev S, Tahir H, Awan GM, Omar B. Angioplasty Beginnings..40 Years Later. Cardiofel Newslet 2018 September;1(3):17-18.