

8th Global

Cardiologists & Echocardiography Annual Meeting

July 18-20, 2016 Berlin, Germany



Roland Hetzer

Former Medical Director, German Heart Institute Berlin, Germany

End-stage Heart Failure

Heart failure has a rapidly increasing incidence in both men and women and is the most prominent heart disease in the elderly. This is due to the successful treatment of acute heart disease which later on turns into chronic failure. Whereas pharmaceutical and electrophysiological concepts have been constantly improved, end-stage heart failure has been approached by various surgical procedures. The majority of cases depends on ischemic heart disease which we described as LOCIMAN (Left heart failure, Occlusion of the Coronary artery, Incompetence of Mitral valve and Left ventricular Aneurysm or Akinesia). It appears to be mandatory to evaluate the relative contribution of these components to heart failure and the relative importance of surgical procedures (coronary bypass, mitral valve repair and aneurysmectomy) for cardiac improvement. These procedures play a major role in less than profound heart failure. In such cases, various external support procedures were introduced which mostly have been abandoned as well as the partial ventricular resection procedure (Batista). Heart transplantation is now a well-established treatment for end-stage heart failure, enabling a high degree of physical rehabilitation and a mean survival time of 12 to 14 years. Some of our patients are now living for more than 30 years after transplantation. However, heart transplantation is an option offered to only few patients due to limited availability of donor organs. Mechanical circulatory support systems have achieved clinical application during the last 30 years. Between 1987 and 2014, more than 2300 ventricular assist devices have been implanted in Berlin to keep patients alive, after which there were three options: bridge to transplantation, bridge to myocardial recovery in myocarditis and in cardiomyopathy, first demonstrated by pump explantation and long-term stability in Berlin in 1995, and as permanent implants. Originally these ventricular assist devices were extracorporeal connected to large driving units. Thereafter, electrical pulsatile systems were introduced; however, these were noisy and bulky. In 1998, the author implanted the first rotary blood pump with continuous flow (MicroMed DeBakey) worldwide. Such systems, which are small and silent, have become the standard in now 90% of cases. These pumps also qualify for long-term use (up to 10 years). They are developed to support the left ventricle; however, they can be also implanted in the right ventricle when necessary. Moreover these systems are very useful in elderly patients. Pulsatile extracorporeal systems, i.e. Berlin Heart EXCOR Pediatric, are the only one available for end-stage heart failure in infants and young children. The only available total artificial heart is the CardioWest pneumatic system. However, there are some experimental total artificial heart developmental projects going on in Germany, in France and in USA.

Biography

Roland Hetzer has completed his cardiothoracic surgery training in Hannover Medical School, Germany and in Stanford University, California. He performed the first heart transplantation in Hannover in 1983 and the first pediatric heart transplantation in Germany in 1985. As the Medical Director and Chairman in Deutsches Herzzentrum Berlin from January 1986 to September 2014, he and his team performed more than 1900 heart transplantations and more than 2300 implantations of mechanical circulatory support systems. He has made numerous original contributions in the field of cardiothoracic and vascular surgery particularly in surgical treatment of end-stage heart failure and valve surgery. Presently, he still serves as the Medical Director of Herzzentrum Cottbus and sees his private patients in Cardio Centrum Berlin.

hetzer@dhzb.de