Bioabsorbable devices in congenital heart disease

The field of pediatric interventional cardiology has made significant strides over the past 3 decades. As increasing procedures are developed, likewise, the ability to apply those procedures and technologies to smaller patients has increased of the years. Neonates have principally benefited from the development of smaller profile catheters and balloons, enabling important interventions to be performed. However, the ability to implant permanent devices in small children is limited by somatic growth and the alternations to the surrounding anatomy that occurs, thus preventing their use until patients reach larger sizes where the ability to implant appropriate devices can occur. This applies largely to the area of endovascular stents. Diseases such as pulmonary artery stenosis and coarctation of the aorta represent important diseases whose most definitive therapy involves the placement of large stents that can be either principally, or at later procedures, dilated to adult vessel sizes. These devices are not reasonable alternative for small children given their length and width that make the delivery systems prohibitive. The advent of biodegradable materials provides an opportunity to design devices that can be placed in these small children without the concern of later somatic growth. As the child grows, the device will dissolve, and not create an iatrogenic stenosis at a later date. We discuss the present state of stent technology and potential applications of this technology in small congenital heart disease patients.

Biography

John P Breinholt has completed his MD at the University of Utah School of Medicine. He completed his Pediatrics Residency, Pediatric Cardiology Fellowship and advanced training in Pediatric Interventional Cardiology at Baylor College of Medicine and Texas Children’s Hospital in Houston, Texas. He is the Division Director of Pediatric Cardiology at the University of Texas Health Science Center at Houston and the Chief of Pediatric Cardiology at Children’s Memorial Hermann Hospital. He is also the Pediatric Cardiology fellowship Director. He has published more than 25 papers in reputed journals and has been serving as an Editorial Board Member of repute.

John.P.Breinholt@uth.tmc.edu