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How upcoming technology, devices, and research will benefit the interventional cardiology community.

Tell us about your role as the founder and Medical Director of the Scottsdale Heart Group in Scottsdale, Arizona. How is this practice different from others you have worked within?

In 1998, we developed the concept of the Scottsdale Heart Group. We believed that a hybrid practice represented an unmet need in the Scottsdale Healthcare system. By hybrid practice, we mean a practice that has brought together a number of quality clinical and interventional cardiologists, with an emphasis on research and innovation. We have found an eager and supportive partner in the Scottsdale Healthcare Hospital.

In retrospect, I am confident that we accomplished this goal. None of the doctors here have gotten complacent and are still hungry to advance the original principles we proposed.

Early on, I believe we established a reputation for high-volume enrollment in many of the pivotal acute myocardial infarction and acute coronary syndrome protocols. Within a few years, we were actively involved in pivotal approval trials for new devices, including early drug-eluting stent (DES) trials. In fact, we were fortunate to have completed the first United States DES trial, which was the CYPHER PK trial.

What has changed in terms of device technology, operator experience, and patient outcomes since you performed the first DES implantation for bifurcations in 2001?

When we performed this bifurcation implantation, we were not completely certain that this would make as significant a difference in the need for revascularization that it actually has. Since that seemingly “primitive” implant, we have witnessed an incredible growth in operator interest in the bifurcation space.

I believe that the greatest development has been the understanding of the clinical and angiographic impact of final kissing balloons in achieving a durable long-term result.

What work is yet to be done in the development and study of DES?

I believe the next frontier in DES technology is developing a fully bioabsorbable implant and defining its role in percu-

taneous revascularization. In addition, I believe another unmet need is the development of a dedicated implant for the treatment of left main disease.

Left main disease is still a new frontier for interventionists. I think we will begin to see industry putting its resources behind this initiative.



How will lipid-scanning technology affect the way patients are treated in the future?

It is my hope that Lipiscan (InfraReDx, Inc., Burlington, MA) will provide us with the technology to define which patients are most vulnerable to progressing to myocardial infarction and acute coronary syndrome. The learning curve with this device in our laboratory has been very favorable. We have seen some diagnostic images that have been absolutely spectacular.

In one recent case, a patient underwent angiography and had an apparently normal left anterior descending artery. Several months later, he presented with chest pain and ventricular ectopy. Repeat angiography showed an ulcerated lesion in the mid-left anterior descending artery. Using Lipiscan, we documented a large lipid burden at the epicenter of this ulcerated lesion, which was not there previously. I have to believe that this may represent plaque vulnerability, as may have been the case in individuals such as Tim Russert.

How prevalent are vulnerable plaque ruptures in sudden death?

I believe the exact prevalence of vulnerable plaque rupture in sudden death needs further clarification. Fortunately, in our tool bag, we have a number of new techniques and technologies that are leading us in this direction. The ability to identify and treat vulnerable plaque remains an area of great interest in interventional cardiology.

Is there reason to believe that we will be able to detect this plaque morphology and treat it before the occurrence of a catastrophic event?

I think the simple answer is yes, we will eventually be able to detect vulnerable plaque and interrupt this

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deadly cascade in the future. We are essentially at a primitive time period in our understanding of vulnerable plaque. It reminds me of where we were in the early 1990s in our understanding of coronary artery restenosis.

This is the beauty of cardiology and coronary intervention; there are so many frontiers yet to be explored and conquered. Heart and vascular medicine continue to represent the most exciting and challenging fields of medicine.

What unique presentations does the Scottsdale Interventional Forum offer the interventional cardiology community?

Each year, we aim to create a meeting that combines state-of-the-art science with a practical application of that science for a broad group of interventionists. Our priority is making certain that interventionists and catheter laboratory staff who attend gain a practical appreciation of how to apply what they have learned to their everyday practice. Also, the live case demonstrations have been talked about at every meeting I have attended.

I have been very blessed with a fantastic faculty who has a unique passion for creating a successful learning environment.

What is the focus of the majority of your research energy?

Although we have been involved in a number of ground-breaking pharmacologic studies, our real energy has been devoted to pivotal approval trials for coronary devices. We were involved in the first United States trial of the Cypher stent (Cordis Corporation, Bridgewater, NJ) in the early part of this decade. We are also doing a great deal of work with devices that are dedicated to a specific niche, such as bifurcation devices.

Our group has spent a lot of time working with start-up companies with a variety of interventional devices, such as the Lipiscan technology, and devices that are dedicated to myocardial salvage in acute myocardial infarction.

Do you have any hobbies or interests that occupy your free time?

I have a wife and four daughters, and they represent the highest priority in my life. In addition, I still find time for music and studio recording. I try to get into the recording studio at least a couple times a year.

But, anyone who has known me longer than 5 minutes understands that I have an undeniable passion for the University of Michigan and its football program. Recently, I had dinner with the university's coach and Athletic Director; it was like 3 hours of football nirvana. ■

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