

Physician Testimonial

Dr. Shiwen Yuan

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Dr. Shiwen Yuan of the Department of Cardiology, University Hospital in Lund, Sweden, first began treating atrial fibrillation (AF) by ablation around the year 2000. Since that time, he—like most of his colleagues—has seen an increase in the demand for AF ablation with the increasing prevalence of this arrhythmia, the aging of the population, and technological advances. “When I first started, our center performed about 10 procedures a year,” he recollected. “Year over year, the number of procedures increased slowly. Last year, our center conducted 58 procedures and it will be about the same amount for 2009.”

Over the years, Dr. Yuan and his colleagues at University Hospital in Lund tried several approaches to ablation, including the approach proposed by Pappone, as well as the “double Lasso” technique utilizing the CARTO system. “With these techniques, it takes time to achieve complete isolation,” he commented. Dr. Yuan reported that at first, he spent three or four hours on a typical AF ablation.

Besides relatively long procedure times, these initial procedures sometimes resulted in complications. In particular, Dr. Yuan remembered one very serious case of pulmonary vein (PV) stenosis and some cases of tamponade where blood gathered in the pericardium not acutely, but hours after the

procedure. Success rates were about 70% but included patients who continued on anti-arrhythmic drug therapy.

“Seventy-one or 72% were about the best results we achieved,” Dr. Yuan reported on those early procedures. “But we had relapses. Sometimes patients would do well at first, even for a year or two, but then relapse.”

Today, Yuan and his colleagues perform AF ablation using Ablation Frontiers innovative technology. “We use Ablation Frontiers products and we would only use other systems if there were specific reasons,” Yuan stated.

The switch came when Dr. Yuan’s colleague, Dr. Kongstad, had the opportunity to learn about Ablation Frontiers and later himself also travel to the Netherlands to observe cases using the technology. Ablation Frontiers offers an ablation system that combines a suite of 3D ablation catheters with a duty-cycled radiofrequency generator. “We use the PVAC catheter [from Ablation Frontiers] for most cases of paroxysmal AF. That’s all we use. Most of the time, PVAC alone can isolate all four pulmonary veins.”

In a recent study led by Dr. Yuan, 42 paroxysmal AF patients were ablated in a single procedure, using the Ablation Frontiers system. Using Holter monitoring, freedom from AF occurred in 59% of the 29 patients

who have now been followed for six months (nine of these patients are still on antiarrhythmic drug therapy). Another 31% experienced significant reduction of AF burden (>90 reduction) with or without symptoms; this was considered to count as a “clinically satisfactory improvement” as compared to daily attacks (eight of these patients are still on antiarrhythmic drug therapy). The total effective rate in this study was 90% (26 out of 29 patients). Furthermore, no complications were observed in any patients and CT/MRI performed two to four months post-procedure confirmed there was no asymptomatic PV stenosis.

“For me, this system was much simpler than the 3D mapping approaches. CARTO works well for patients with a small left atrium, but for patients with a large left atrium, it is difficult to reach the anterior or posterior wall without using a steerable introducer to extend your reach,” Dr. Yuan added. “The big advantage in using Ablation Frontiers is the simplicity it provides to get to the PVs under the guidance of a guidewire. It’s really simple.”

This simplicity translates into reduced procedure times. While older methods reportedly took Dr. Yuan more than three to four hours, his recent study using the Ablation Frontiers system timed the average procedure at 207 ± 41 minutes (154 to 320 min) with fluoroscopy time at 41 ± 10 minutes (28-64) including the learning curve. These times were measured skin-to-skin and included PV angiography and DC conversion. However, in two of the patients, time for ablation of atrial flutter was deducted. His recent procedures typically require less than 2.5 hours.

One benefit of reduced procedure times is that the facility can now do two procedures in a single day, something it had not usually been able to do before. Despite that benefit, the waiting list for AF ablation procedures remains steady at more than 3 months at the University Hospital in Lund because year over year, there is greater demand for AF ablation.

“We have definitely seen a decrease in procedure times,” Yuan reported. “We measure time skin-to-skin and using Ablation Frontiers results in clearly shorter procedure times. This makes it easy for doctors and nurses to accept this new system.”

The learning curve for Ablation Frontiers system was very short for Yuan and his colleagues. Some ablation equipment depends in large measure on operator expertise to achieve acceptable results and the use of other techniques requires substantial investment in technology as well as considerable experience mastering the system. “With the system from Ablation Frontiers, a physician can get good results right from the beginning.”

For Yuan, training in the Netherlands involved observing cases under a physician mentor, well-versed in Ablation Frontiers technology. “I think if you can observe a few cases, that’s sufficient for physicians who have had experience in AF ablation,” he recollected. “Of course, continuing education is good to update your knowledge. The clinical support we have from Ablation Frontiers is good, too.”

Yuan anticipates more and more demand for AF ablation. To that end, he sees an urgent need to make AF ablation procedures easier, more streamlined, and more straightforward. The old days of using a lot of capital equipment, multiple catheters, and relying on approaches that depend on incredibly high levels of technical experience and manual expertise simply are unsuitable for today’s clinical environment and definitely will be outmoded in the near future.

He feels that Ablation Frontiers is meeting this challenge by developing a system that requires no 3D navigation equipment, no mapping catheters, and new catheter designs that are easy to learn and deploy.

“There is still a great need to make this technology available, especially for the smaller centers,” he reported. The demand for AF ablation is increasing so rapidly that clinics and their clinicians cannot keep up. “That is why our center today has transitioned almost entirely to Ablation Frontiers products for AF ablation. The procedure is not difficult to learn; it works well and it is faster than the other methods. Ablation Frontiers technology is the best available for keeping it simple.” ■