Intraoperatively, you confirmed entrance and exit block of the PVs; however, three months after, when patients got touched up, only 66% had isolated pulmonary veins. What is your explanation for that?

Dr Kurfirst: Yes. I think that during our surgical procedure, when you are testing the transmurality of the lesion, you are testing it by the decline of impedance of the clamps. And also, it has been shown that clamping of pulmonary veins alone, without any energy, has the potential for provoking some kind of exit or entry block for a while, maybe for some hours. So I think that especially in dilated left atria with fibrous tissue, we need more lesions. So these are our results from the beginning of this programme, and I hope that with adding more lesions, we can also increase the success rate of PV isolation.

Dr Salzberg: We do a single hybrid approach in Amsterdam, and we clamp the PVs until the impedance drops within 5 seconds, and then we do epicardial entrance and exit block testing. And I was just wondering why these lesions weren’t complete over time.

My second question, more importantly, concerns the left atrial appendage. You were able to exclude 66% of left atrial appendages, which in my opinion is not enough. Because when the patient comes to surgery, we are not sure if we are going to be able to treat the rhythm properly, but we can at least get rid of that appendage. Why only 66% success rate for this?

Dr Kurfirst: Yes, you are completely right; this has something to do with the learning curve of our procedure. So in the beginning, in the first 10 patients, it was in the range of 40 or 50% of patients. And at this time, it is more than 90%. So I think that with the learning curve, we will also be more successful in this.

Dr Salzberg: I think the previous speaker, with the talk on the stapler, showed the importance that we surgeons learn that we have different tools to be able to deal with different types of anatomy. I don’t think that one size fits all, and that’s why having more options available (as do the cardiologists in Europe with the Watchman and the Amplatzer and the LARIAT) I think will help us.

Dr S. Benussi (Milan, Italy): I have only one more question. Sasha talked about the 60%, nearly 70% success rate on isolation of the pulmonary veins. I really don’t understand why you would pursue a tricuspid line which in your experience has achieved a successful ablation in only one case. So why do that at all? The EP cardiologists like to do that line in totally another place, not where you suggest they do so. You’re probably just creating some scars, which are quite likely the cause of post-ablation tachycardia, like the one you experienced in your series.

Dr Kurfirst: You are totally right. The issue is that in our protocol, we only had the partial isthmus line, because it was as a favour by our EPs that they wanted to help with this mitral isthmus line. So it was in a protocol that we go to only part of it, and they will do the rest. So they don’t have to do a 7 cm lesion, but only a 3 or a 2.

Dr T. Hanke (Lübeck, Germany): As I understand it from an anatomical standpoint, the tricuspid line is different than the EP’s mitral isthmus line, right?

Dr Kurfirst: Yes.

Dr Hanke: It goes from the left pulmonary vein down through the mitral, and it is P1, and the tricuspid line goes to A1. So do you call this finalization?

Dr Kurfirst: We call it finalization.

Dr Benussi: You are actually right about the second mitral line.

Dr Kurfirst: So that’s my mistake. Sorry.

Dr N. Ad (Fall Church, VA, USA): I have two comments. One is that we have to remember that ablation lines that are being applied across the Bachmann bundle as a part of the Dallas lesion set are very hard to establish as the atria are very thick there. It is basically a very similar line to the maze I which was abandoned because it created a block and a significant delay between the activation of the right and left atrium. So you may end up with an 180 to 280 millisecond delay between the right and left atrium. I don’t understand this line at all.

Secondly, we all have to go back to the original mapping of human atria and remember that the isthmus line across the coronary sinus is necessary not only to abolish atrial fibrillation, but also because AF can originate around the coronary sinus. But I believe that the main issue here is not the heart team concept and the collaboration; it is about the fact that we surgeons don’t have reliable tools to ablate epicardially on a beating heart and create reliable transmural lesions.

So in our institute, the biggest opponents of the hybrid procedures are the EPs. And we have a hybrid EP suite, an operating room that is equipped like an EP Lab where we can do everything. Why is that? Because we see time after time that all those lines that look okay during the operation are not okay and create a lot of arrhythmias, both new and recurrent.

So as a stage to a good hybrid procedure that makes sense; it is not about the lesion, it is about the devices. And currently, except for the bipolar clamp to the pulmonary veins, nothing really works, and Stefano can say more about it than I can say, we have no device that can transmit reliable transmural lesions epicardially. So we can do a fancy minimally invasive procedure and basically throw away all our essential work that is actually good for the patients. The procedure shouldn’t be done so the patient can drink coffee in the afternoon; the procedure should be done so the patient can drink coffee ten years from now, A Fib free. This is our challenge as surgeons.