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MINIMALLY INVASIVE FULL BIATRIAL COX MAZE IV: WE ARE GOING IN THE RIGHT DIRECTION

To the Editor:

I read with great interest the article by Lawrance and colleagues,[1] and I congratulate them on this very interesting and well-written article. They have shown that the Cox maze IV procedure, with its inherent variations, can be performed by means of a less invasive right anterolateral minithoracotomy with excellent outcome. My personal preference is for the classic standard ''cut-and-sew'' Cox maze III procedure. Once the surgeon has acquired technical expertise, this procedure is both easy and safe to do. What is truly important is not the complexity of the procedure, but rather the aortic crossclamp time. This is the rub, and this is why alternative energy sources for atrial fibrillation surgery have mushroomed in recent years. Since 2002, this has been termed as Cox maze IV procedure. Damiano and his working group[2] have been pioneers in this technology. The idea proposed by Lawrance and colleagues[1] looks promising. In addition to the minimally invasive surgery, they used the only 2 energy sources that have been proved to be successful achieving full transmural lesions in the atria, bipolar radiofrequency and cryolesion. This great effort by Lawrance and colleagues[1] in this article highlights that the trend is now toward the idea conceived by Cox[3] 11 years ago. He stated that surgery for atrial fibrillation should meet the following conditions: (1) the procedure should preferably be epicardial by nature; (2) the energy source should be capable of penetrating epicardial fat and ablating all types of atrial fibrillation; (3) cardiopulmonary bypass must be avoided; (4) the procedure should be amenable to endoscopic or minimally invasive techniques; (5) it should be performed in less than 1 hour; and (6) hospital discharge should be possible on the first postoperative day. Although it is true that not all these objectives have been achieved, we must recognize that we are on the right track. Novel devices are being developed[4,5]; as yet, however, transmural lesions have not been safely produced on the beating heart by epicardial ablation. Unfortunately, cardiopulmonary bypass remains a crucial aspect to perform this kind of procedure. The most important point is that we are going on the right direction, each moment getting closer to the goal. I really congratulate Lawrance and colleagues[1] for this fine and great effort.

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RUPTURE OF EXPANDED POLYTETRAFLUOROETHYLENE NEOCHORDAE USED FOR MITRAL VALVE REPAIR: DOES SIZE MATTER?

To the Editor:

In a report published in another journal in 2007,[1] we reported 2 cases of rupture of synthetic chordae tendineae (expanded polytetrafluoroethylene [ePTFE]). We also analyzed the possible causes of what was then considered an extremely rare finding, which had first been reported by Buttany and

colleagues.[2] In that report, we hypothesized that, among others, inappropriate direct manipulation of the ePTFE by surgical instruments could be a causative factor. Subsequently, other groups[3-6] have reported such occurrences, which have become less rare. This has occurred proportionally to the worldwide expanding use of ePTFE for mitral valve reconstruction in the form of neochordae to replace ruptured or elongated native chordae or to reinforce areas of leaflet prolapse as an alternative to resection techniques. The isolated reports have rendered it difficult to understand the genesis of this event, and we are awaiting additional analysis of the ultrastructure of the damaged material to shed some light on the subject.

In our initial experience, we had used size 4-0 Gore-Tex sutures but subsequently reverted our practice to using 5-0 because of the presumed greater flexibility and smaller volume of the multiple knots required to fix the suture to the leaflets. Other surgeons have also used 5-0, although some have continued to use 4-0.

We had, until now, assumed that the well-known strength of ePTFE was a guaranty of integrity and have used it liberally, for more than 20 years, in several hundreds of cases. Recently, however, we encountered a couple of other cases of ruptured artificial chordae and started to interrogate ourselves about the correctness of this assumption. In contrast to our first thoughts, we have increasing concern that the 5-0 suture might not be strong enough to withstand the systolic tension of the closing mitral valve leaflets. Hence, we have chosen to return to using the 4-0 size and wish to draw the attention of other surgeons to this potential problem.

Although published data have demonstrated that even after 10 years ePTFE chordae are still flexible and pliable, making them indistinguishable from native chordae,[7] evidence has also shown that with the progression of time, artificial chordae can degenerate, calcify, and, eventually, rupture.

Early and late rupture has now been reported with both sizes of ePTFE suture; hence, other factors could be involved; however, a little more strength certainly will do no harm.

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EXPANDED LEVEL OF SYMPATHECTOMY AND INCIDENCE OR SEVERITY OF COMPENSATORY HYPERHIDROSIS

To the Editor:

We read with keen interest the article by Gunn and colleagues[1] regarding their opinion on extension of sympathectomy for the treatment of primary hyperhidrosis and occurrence of compensatory hyperhidrosis (CH). Their retrospective review of an unrandomized series of patients suggested that severe CH was rare and occurred irrespective of the level or extension of sympathectomy.

From a methodologic point of view, retrospective studies are, undoubtedly, inferior to prospective assessments, and *randomized* prospective trials are significantly superior to the former. There have been prospective and randomized studies relating greater frequency and discomfort of CH after more proximal and extended sympathectomy.[2-4] In these studies, different patients were randomly assigned to undergo bilateral symmetric sympathectomies (eg, a patient was randomly assigned to undergo bilateral T4 sympathectomy, and another patient was randomly assigned to undergo bilateral T3-T4 sympathectomy). For palmar and axillary hyperhidrosis, CH was reported with lower frequency in less extensive and less proximal sympathectomies.

A study by Katara and coworkers[5] had a different design, in which all patients underwent operation on one side with an extensive sympathectomy (T2-T3) and on the other with a more limited sympathectomy (T2). The side of extensive sympathectomy was randomly determined (left vs right), but all patients had an extensive sympathectomy on one side and a limited sympathectomy on the other. Their results showed, at best, that after an extensive sympathectomy on one side, most patients would have CH bilaterally despite a less extensive (T2 only) sympathectomy on the other side.

We believe that extreme caution must be taken if one considers, from a single institutional and retrospective review, that extended sympathectomy does not influence the outcome of CH, when prospective and randomized studies have suggested otherwise. CH, when present, may become a difficult situation to deal with, and extreme caution must be taken to