

# Surgical treatment of atrial fibrillation: incoherence or negligence?

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*Code of Medical Ethics, Chapter V - Relationship with Patients and Family*

*The physician shall not:*

*Article 32. Stop using all available means of diagnosis and treatment scientifically recognized and accessible in favor of the patient.*

The literature is full of arguments and data emphasizing the relationship between atrial fibrillation (AF) and increased risk of stroke and mortality. This occurs even in primary AF, i.e., in the absence of structural heart defects and it is aggravated by risk factors, as listed in the known CHADS score. By means of the factors, the risk can be stratified, allowing the identification of cases of increased risk for stroke and death.

It is known that anticoagulation is necessary and effective in reducing thromboembolism, but is not sufficient to completely prevent systemic embolization, which occurs at least 1.5% of patients a year, when carefully treated and followed [1].

Percutaneous ablation by catheter using radiofrequency energy or other, obtains success rates of up to 70% in cases of paroxysmal and persistent AF, reaching higher rates if you make two or more attempts. However, percutaneous ablation is admittedly ineffective in permanent AF, in chronic cases of long duration and dilated atria, and contraindicated in the presence of thrombi.

On the other hand, the Maze procedure, known as Cox (“maze procedure”) and its amendments, as the surgical isolation of pulmonary veins by cutting and stitching has been applied with high success rates (greater than 90%) in reversion of sinus rhythm or atrial, on cases of long-term permanent refractory AF in atria usually larger than 5 cm in diameter, with or without structural heart disease [2,3]. The procedure involves extensive thoracotomy and

extracorporeal circulation, but the hospital risk is located around 1% for mortality.

In this issue, Canale et al. [4], in the article “Surgical treatment of atrial fibrillation using bipolar radiofrequency ablation in rheumatic mitral valve disease” (p. 565) show the experience with bipolar radiofrequency ablation during mitral valve surgery. This very form of ablation is used in video-assisted surgery, which is gaining exposure in the literature.

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These new procedures, less invasive and without cardiopulmonary bypass, use epicardial ablation, but success rates remain lower than those of surgery for cutting and suturing. As techniques improve, they may prove more effective, perhaps in the near future.

An alternative that has been mentioned would be the combination of epicardial ablation by video-assisted thoracotomy with percutaneous endocardial ablation, such as hybrid procedures, simultaneously or in sequence. Thus, one could obtain complete isolation of pulmonary veins, similar to that provided by cutting and suturing, bringing the success rate of less invasive methods to conventional surgery. However, it should again be remembered that even though the thoracotomy procedure being a larger procedure, its risks in elective patients without major comorbidities are about 1% to 8% for mortality and morbidity.

Therefore, based on objective evidence, it can be argued that conventional surgery to treat long-term permanent refractory AF has excellent risk / benefit ratio, because the morbidity and mortality cited would be offset in a short time by longer survival and lower risk of stroke in patients maintained in sinus rhythm postoperatively.

Due to this fact, the question that remains could be summarized as: How come the surgical correction of AF in patients with primary AF is not indicated, especially in those at higher risk for stroke and death by the mere presence of AF?

Consensus of the specialty societies of 2007 [5] already provided the surgical indication for primary refractory AF,

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recognizing the effectiveness of Cox and its modifications.

In Brazil, however, this option has been “forgotten.” The Brazilian Congresses of cardiac arrhythmias in recent years have omitted discussion of AF surgery or, on the rare occasions that they include this theme in the program, electrophysiologists are chosen to present it. As if such congresses were about electrophysiology rather than arrhythmias.

The Brazilian Guidelines on Atrial Fibrillation [6] included only surgical option timidly between their recommendations because the author of this editorial brought the issue at the last meeting of the Brazilian Society of Cardiac Arrhythmias that defined the final format of the guideline.

Meanwhile, about 2 million people (estimated 10% of the Brazilian population older than 60 years) [7] are exposed to the occurrence of stroke and death due solely to the presence of AF. It is well known that 45% of strokes are due to non-valvular AF.

Good medical practice recommends always having the benefit of the patient as the spotlight, leaving aside the personal, corporate, economical or any other interest that may conflict with such a noble purpose of Medicine.

In recent times, we are witnessing the attempt of the reserve rules of market override the interest of the patient. We must resist this deformation of the medical practice.

In terms of objectivity and consistency, we could make an analogy between the surgical indication for AF and other illnesses, such as atrial septal defect (ASD) and mitral regurgitation, as examples. In both, the acceptance of surgery for the patient still asymptomatic and peaceful is a consensus. However, in none of them there are risks of death or stroke as there is in permanent AF. The natural progression of these lesions does not foresee the disastrous consequences of a stroke or death in the short to medium term. Why do we resist the AF for surgery or even it is omitted the discussion of such in the events of arrhythmias in Brazil?

Apart from good care practice that should always be observed, considering the current knowledge and relating their own Code of Medical Ethics for this situation, we may

mention that the physician is ethically prohibited from omitting and stop using surgical therapy in favor of patients with permanent and refractory atrial fibrillation.

#### REFERENCES

1. Connolly SJ, Ezekowitz MD, Yusuf S, Eikelboom J, Oldgren J, Parekh A, et al. Dabigatran versus warfarin in patients with atrial fibrillation. *N Engl J Med*. 2009;361(12):1139-51.
2. Prasad SM, Maniar HS, Camillo CJ, Schuessler RB, Boineau JP, Sundt TM 3<sup>rd</sup>, et al. The Cox maze III procedure for atrial fibrillation: long-term efficacy in patients undergoing lone versus concomitant procedures. *J Thorac Cardiovasc Surg*. 2003;126(6):1822-8.
3. Albrecht A, Kalil RA, Schuch L, Abrahão R, Sant’Anna JR, de Lima G, et al. Randomized study of surgical isolation of the pulmonary veins for correction of permanent atrial fibrillation associated with mitral valve disease. *J Thorac Cardiovasc Surg*. 2009;138(2):454-9.
4. Canale LS, Colafranceschi AS, Monteiro AJO, Marques BM, Canale CS, Koehler EC, et al. Tratamento cirúrgico de fibrilação atrial utilizando ablação com radiofrequência bipolar em doença mitral reumática. *Rev Bras Cir Cardiovasc*. 2011;26(4):565-72.
5. Calkins H, Brugada J, Packer DL, Cappato R, Chen SA, Crijns HJ, et al. HRS/EHRA/ECAS expert Consensus Statement on catheter and surgical ablation of atrial fibrillation: recommendations for personnel, policy, procedures and follow-up. A report of the Heart Rhythm Society (HRS) Task Force on catheter and surgical ablation of atrial fibrillation. *Heart Rhythm*. 2007;4(6):816-61.
6. Zimmerman LI, Fenelon G, Martinelli Filho M, Grupi C, Atié J, Lorga Filho A, et al. Sociedade Brasileira de Cardiologia. Diretrizes brasileiras de fibrilação atrial. *Arq Bras Cardiol*. 2009;92(6 supl. 1):1-39.
7. IBGE Censo 2010. <http://www.censo2010.ibge.gov.br/sinopse/webservice/>