

Critical Care 2019; Surgical treatment of atrial fibrillation: Today's questions and answers- Ergun Demirsoy-Kolan International Hospital

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Abstract:

Atrial Fibrillation (AF) is the most common cardiac arrhythmia, characterized by chaotic electrical activity and the lack of coordinated contractions in the atria. AF can cause significant morbidity and mortality including stroke and heart failure. The goal of AF therapy is to achieve a return to permanent sinus rhythm. Medical treatment is accompanied with serious drug side effects and often fails to completely preclude complications of AF. Classic cut and sew procedure Cox-Maze did not gain widespread acceptance due to complexity and technical difficulty. There are alternative techniques using various energy sources in an effort to make Cox-Maze procedure technically simpler and faster to perform. The main idea is to create lines of intra-atrial conduction block that will stop macro-reentrant electrical circuits in the atria, isolate the trigger or triggers for AF originating near the pulmonary vein orifices or accomplish both and allow the atria to resume a sinus rhythm. Radiofrequency, cryotherapy and ultrasound waves are the most common sources of energy employed in clinical use of treatment of AF. These energy sources rely on energy sources to create long, continuous, linear lesions that block conduction. They differ mainly in the way by which they transfer energy to the tissue and how deep that energy is conducted into the tissue. There are some important questions we have to answer when we are considering to treat a patient with AF, they are: Which patients benefit most? How much important does the preoperative AF triggers localization? Should we consider hybrid procedures? What is the optimal ablation approach? What are the choices of the lesion set? Which energy source alternative should we use? In future; answering these questions and better understanding of AF will bring successful ablation modalities to AF patients.

Clinically, AF can be separated into paroxysmal, industrious and lasting. Paroxysmal AF is

characterized as AF that is self-ending, as a rule inside 48 h. Relentless AF is available when a scene of AF keeps going longer than 7 days or requires pharmacological or electrical cardioversion >48 h after beginning. Longstanding tireless (LSP) is characterized as AF that has gone on for ≥ 1 year however a mood control procedure is as yet thought of. AF is viewed as changeless when the patient and doctor acknowledge the arrhythmia, cardioversion has fizzled or esteemed improper and musicality control is not, at this point sought after.

AF is the most widely recognized continued arrhythmia. Its pervasiveness and occurrence are expanding because of maturing and improved endurance from intense heart infections. The lifetime danger of improvement of AF is $\approx 25\%$ for those matured more than 40, remaining $\approx 16\%$ without simultaneous cardiovascular malady.

AF is available in 3–6% of intense clinical affirmations, most normally in relationship with coronary course illness and congestive cardiovascular breakdown (CHF), yet it can likewise be confined (solitary AF) or a postoperative confusion, particularly after cardiothoracic medical procedure.

The instruments fundamental advancement of AF are, until now, scarcely comprehended and different components have been advanced, for example, enactment of renin–angiotensin–aldosterone framework, haemodynamic over-burden, aggravation/oxidative pressure, auxiliary/electrophysiological rebuilding, central triggers and reemergence. Additionally, the movement from paroxysmal to constant AF just as the abstract treatment adequacy are to a great extent obscure. With regards to this, the pharmaceutical armamentarium at present accessible targets controlling signs/side effects and lessening thromboembolic chance. In spite of being first-line treatment, the benefit of mood versus

rate control remains fervently discussed and viability/wellbeing of antiarrhythmic drugs (AAD) involves concern.

In this manner, until novel treatments focused to the pathogenic systems liable for inception/propagation of AF become the pillar, percutaneous or careful removal of arrhythmic triggers draws advantage from the capacity to annul the inalienable issues of the supported arrhythmia itself just as its awkward clinical treatment.

In spite of being firmly endless supply of AAD, catheter removal as first-line treatment might be considered in explicit and very much characterized clinical situations. The system is unwieldy and not absolved from inconveniences, and thus, gauging dangers and advantages at an individual premise is justified. On the off chance that catheter removal is contraindicated or neglects to progressively control beat or indications, at that point independent careful treatment might be thought of.

Then again, the recurrence of AF as comorbidity in patients experiencing coronary vein sidestep join (CABG) as well as valve medical procedure is on the ascent and significantly builds the mortality chance throughout the years after activity. Other than improving long haul endurance, careful removal of AF may block changeless anticoagulation. Thromboembolic hazard can be additionally diminished by intraoperative resection/avoidance of the left atrial extremity (LAA).

All patients submitted to AF removal ought to have an outpatient arrangement 3 months after removal and afterward like clockwork for in any event 2 years, regardless of being joined up with a clinical preliminary. Electrocardiograms (ECGs) ought to be acquired at all subsequent visits, with stricter observing saved for patients in whom AF discovery can have a huge effect. Directing patients to screen beat anomaly and ECG recording utilizing physically enacted occasion recorders are powerful for introductory screening of asymptomatic AF scenes. Visit asymptomatic repeats of AF can be effortlessly distinguished with 1–7-day Holter-checking, though less regular AF scenes may require auto-trigger

occasion screen, portable heart outpatient telemetry framework or implantable subcutaneous observing.

CONCLUSION

Throughout the most recent two decades, clinical, catheter-based, and careful administration of AF have accomplished exceptional upgrades. The improvement of novel removal methods, vitality sources and negligibly obtrusive methodologies altered careful treatment of AF. Today AF removal associatively with an in any case showed cardiovascular medical procedure improves tolerant anticipation without including huge usable hazard. As more is found out about the basic instruments and with better preoperative appraisal, including electrophysiological mapping frameworks, it will get conceivable to tailor explicit sore sets and removal modalities to singular patients. Close joint effort among electrophysiology and medical procedure is introducing another period of AF the executives.