Docket #: S19-081

Biopolar Magnetically Self Aligned Sheath for Ablation

Stanford researchers have prototyped an electromagnet-based epicardial-endocardial alignment sheath for constant force bipolar ablation. This innovative catheter system creates full-thickness ablation during epicardial and endocardial ablation procedures while aligning tools perfectly on two sides of the heart using a set of magnets. Combining two separate standard procedures into one enhances ablation alignment and transmurality as well as saves time and costs.

Current devices often fail to create a lesion with sufficient size and thickness to resolve atrial fibrillation (AF), requiring additional procedures. Performing simultaneous ablation from the outside and inside walls of the heart at the same spot will make it possible for a minimally invasive procedure to be as successful as open heart surgery using the self-aligning feature of this system. Additionally, this invention will work with currently FDA approved catheters.

Figure

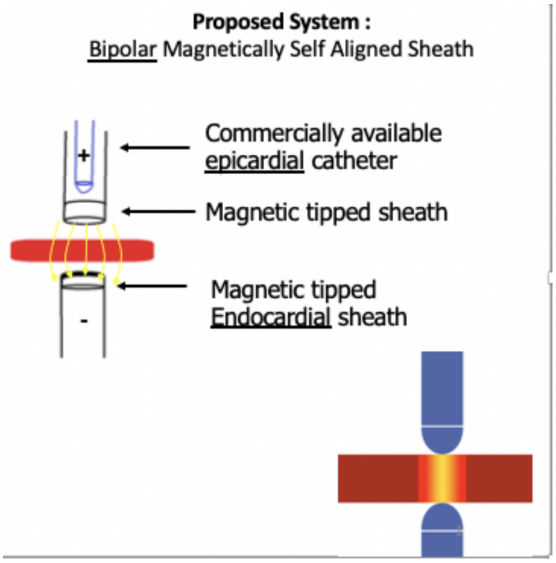


Image Credit - Wang Lab

Stage of Development

- Prototype
- Planning clinical studies

Applications

- Arrhythmia/AF ablation
- Guiding adaptor or extension for catheters

Advantages

- **Efficient** - can provide transmural full-thickness continuous lesion using one apparatus
- **Time and cost savings**- replaces two separate procedures into one procedure that enhances ablation alignment and transmurality in AF patients
- **Effective** – this minimally invasive approach can be as effective as open heart surgery without its risks
- **Compatible with currently FDA approved catheters**
- **Addresses key limitation of current methods**

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