

**EMBARGOED FOR RELEASE UNTIL FRIDAY JULY 30, 2021, 1:45 P.M.**

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**LATE-BREAKING CLINICAL TRIAL RESULTS ANNOUNCED  
AT HEART RHYTHM 2021:**

**NEW ABLATION TECHNIQUE HELPS TREAT PATIENTS WITH INAPPROPRIATE SINUS  
TACHYCARDIA**

*Patients experienced a normal sinus rate and improved quality of life compared to current treatment method*

**BOSTON, MA, July 30, 2021** – A recent study unveiled a novel sinus node ablation technique that provides a safe and effective treatment option for patients suffering from symptomatic, drug-resistant inappropriate sinus tachycardia (IST). Results of the Susruta-IST Registry were presented as a late-breaking clinical trial at Heart Rhythm 2021.

Inappropriate sinus tachycardia (IST) occurs when an individual's heart rate explicitly exceeds 100 beats per minute while at rest. More common in young women than men, IST causes varying symptoms that can be debilitating, often impacting quality of life.<sup>1</sup> Because the causes of IST are unknown, it is sometimes misdiagnosed as a pathological sinus tachycardia, emotional problem and/or mental illness, like depression.<sup>2</sup> Current medical therapies for IST management in drug refractory or intolerant patients provide suboptimal relief and the current interventional therapy, radiofrequency sinus node (RF-SN) ablation, can have low success rates and high risk of complications.

The multicenter, prospective registry compared a novel SN sparing hybrid ablation technique versus conventional RF-SN ablation. The hybrid procedure used video assisted thoracoscopy with an RF bipolar clamp to isolate the superior vena cava, inferior vena cava and the crista terminalis. RF-SN modification was performed by endocardial or epicardial mapping and ablation in the lower half of the SN, which is where it is believed that these rapid electrical pulses originate.

Of the 100 enrolled patients (hybrid: 50; RF-SN: 50), the mean age was 22.8 years and 82% were women. Outcomes were tracked using implantable cardiac monitors to capture average daily heart rates and peak heart rate following a 6-minute walk test and assessed at baseline, three, six and 12 months. The psychosocial impacts were assessed using the Zung's Self-Rating Depression Scale, Self-Rating Anxiety Scale and Short-Form 36 quality of life questionnaire.

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<sup>1</sup> Sheldon RS, Grubb BP 2nd, Olshansky B, Shen WK, Calkins H, Brignole M, Raj SR, Krahn AD, Morillo CA, Stewart JM, Sutton R, Sandroni P, Friday KJ, Hachul DT, Cohen MI, Lau DH, Mayuga KA, Moak JP, Sandhu RK, Kanjwal K. 2015 heart rhythm society expert consensus statement on the diagnosis and treatment of postural tachycardia syndrome, inappropriate sinus tachycardia, and vasovagal syncope. *Heart Rhythm*. 2015 Jun;12(6):e41-63. doi: 10.1016/j.hrthm.2015.03.029. Epub 2015 May 14. PMID: 25980576; PMCID: PMC5267948.

<sup>2</sup> Marrouche NF, Beheiry S, Tomassoni G, et al. Three-dimensional nonfluoroscopic mapping and ablation of inappropriate sinus tachycardia. Procedural strategies and long-term outcome. *J Am Coll Cardiol* 39: 1046-1054, 2002.

“While there are still some unknowns around inappropriate sinus tachycardia, we do know how unbelievably challenging it can be to live with this heart condition. Often, we see this condition is under-diagnosed or misdiagnosed, especially in women, and for many, the symptoms are debilitating and can greatly alter daily life,” said Dhanunjaya R. Lakkireddy, MD, FHRS, Executive Medical Director of the Kansas City Heart Rhythm Institute and lead author of the Susruta-IST study. “Our study helps establish a new treatment approach to help get their symptoms under control without major complications. The novel hybrid ablation method is not only a safe and effective treatment option, but it also demonstrates a lower risk of destroying the sinus node, decreases the need for a pacemaker and minimizes the chances of follow-up procedures.”

Normal sinus rhythm and rate was restored in all patients in the hybrid group compared to 84% in the RF-SN group. The hybrid patient group underwent a total of 54 procedures, whereas the RF-SN group had a total of 124 procedures with all of them requiring two or more procedures. In addition, the average anxiety score among the hybrid group after six months improved 9 points ( $\pm 3$ ), compared to only 5 points ( $\pm 2$ ) in the RF-SN group.

Authors of this study would like to see a randomized trial conducted to help analyze drug treatment compared to the hybrid ablation as treatment options for patients with IST.

#### **Sessions Details:**

“Late-Breaking Clinical Trials 4: Sinus Node Sparing Hybrid Thoracoscopic Ablation Outcomes In Patients With Inappropriate Sinus Tachycardia (Susruta-IST Registry)” [Friday, July 30, 2021 at 1:45 p.m. EST]

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#### About Heart Rhythm 2021

The Heart Rhythm Society's annual meeting attracts thousands of the world's finest clinicians, scientists, researchers, and innovators in the field of cardiac pacing and electrophysiology. Heart Rhythm 2021 attendees were able to determine how to participate - virtually or in-person. More than 600 international experts in the field will serve as faculty for programming that includes Daily Plenary Sessions, Late-Breaking Clinical Trials, Recorded Cases, Debates, Rhythm Theater Presentations and more, while over 100 exhibitors will showcase innovative products and services.

#### About the Heart Rhythm Society

The Heart Rhythm Society is the international leader in science, education, and advocacy for cardiac arrhythmia professionals and patients and is the primary information resource on heart rhythm disorders. Its mission is to improve the care of patients by promoting research, education, and optimal health care policies and standards. Incorporated in 1979 and based in Washington, D.C., it has a membership of more than 7,000 heart rhythm professionals in more than 90 countries around the world. For more information, visit [www.HRSonline.org](http://www.HRSonline.org).