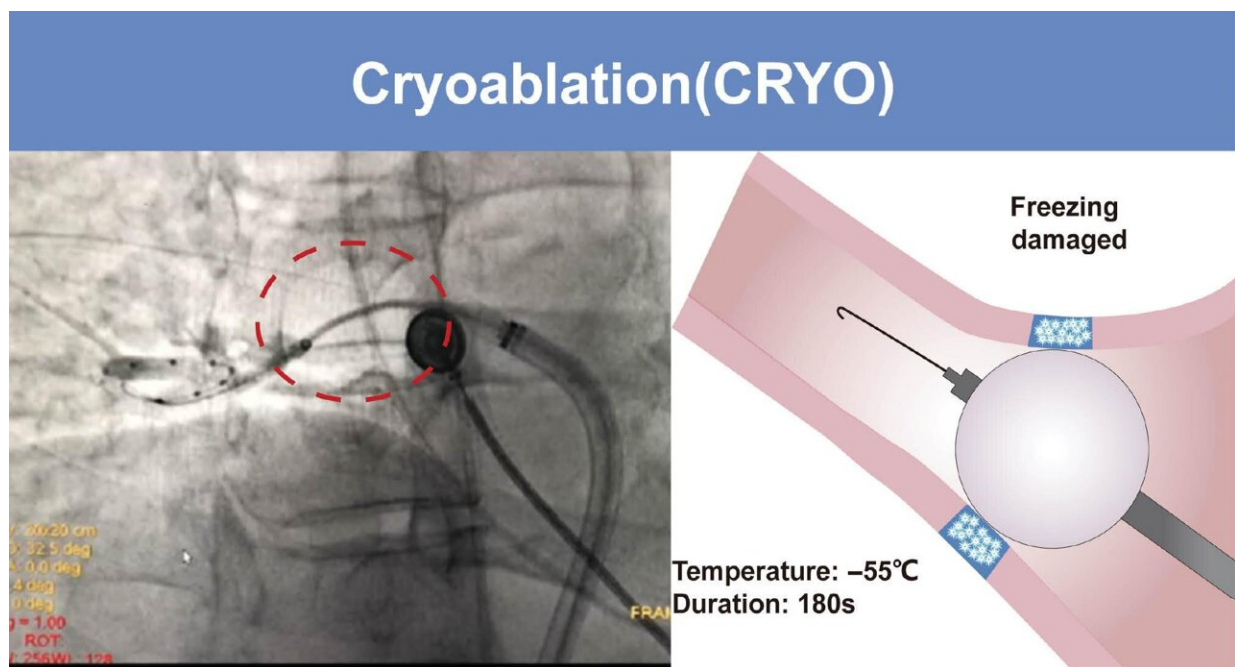


# Incremental metabolic benefits from cryoablation for paroxysmal atrial fibrillation: Study

January 8 2024



Catheter Ablation Technologies. (A) Fluoroscopic image depicting the cryoballoon catheter positioned at the pulmonary vein ostium. (B) Illustration depicting the principal design of the cryoballoon. Credit: *Cardiovascular Innovations and Applications* (2024). DOI: 10.15212/CVIA.2023.0079

Cryoablation (CRYO) is a novel catheter ablation technique for atrial fibrillation (AF). However, uncertainty persists regarding the role of

metabolic modifications associated with CRYO. A study [published](#) in *Cardiovascular Innovations and Applications* explores whether CRYO influences the metabolic signature—a possibility not previously investigated.

Paired serum samples from patients with AF (n = 10) were collected before and 24 hours after CRYO. Untargeted metabolomic analysis was conducted with LC-MS. Univariate and multivariate analyses were applied to identify differential metabolites between samples. Pathway enrichment and Pearson correlation analyses were performed to reveal the perturbed metabolic pathways and potential interactions.

Levels of 19 metabolites showed significant changes between baseline and 24 hours after CRYO. Pathway analysis revealed that the perturbed metabolites were enriched in unsaturated fatty acid biosynthesis, retrograde endocannabinoid signaling, and neuroactive ligand-receptor interactions. Pearson correlation analysis indicated strong correlations among differential metabolites, biochemical markers, and clinical indicators.

CRYO induces systemic changes in the serum metabolome in patients with paroxysmal AF and provides potential metabolic benefits. These findings might enable an enhanced understanding of the pathophysiology and metabolic mechanisms involved in [catheter ablation](#).

**More information:** Mengjie Xie et al, Incremental Metabolic Benefits from Cryoablation for Paroxysmal Atrial Fibrillation: Insights from Metabolomic Profiling, *Cardiovascular Innovations and Applications* (2024). [DOI: 10.15212/CVIA.2023.0079](https://doi.org/10.15212/CVIA.2023.0079)

Provided by Compuscript Ltd

Citation: Incremental metabolic benefits from cryoablation for paroxysmal atrial fibrillation: Study (2024, January 8) retrieved 29 April 2024 from <https://medicalxpress.com/news/2024-01-incremental-metabolic-benefits-cryoablation-paroxysmal.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.