










Case report: Gastroparesis as a complication after cardiac cryoablation

 **Nikolina Slamek***,
 **Ivica Benko**,
 **Mateja Lovrić**,
 **Ivan Zeljković**,
 **Mirela Adamović**,
 **Marija Grlić**,
 **Marina Žanić**,
 **Mario Tomašević**,
 **Ivan Horvat**

Dubrava University Hospital,
Zagreb, Croatia

KEYWORDS: cryoballoon ablation, pulmonary vein, complication, gastroparesis.

CITATION: *Cardiol Croat.* 2024;19(11-12):639. | <https://doi.org/10.15836/ccar2024.639>

***ADDRESS FOR CORRESPONDENCE:** Nikolina Slamek, Klinička bolnica Dubrava, Avenija Gojka Šuška 5, HR-10000 Zagreb, Croatia. / Phone: +385-1-2902-972 / E-mail: nina.slamek@hotmail.com

ORCID: Nikolina Slamek, <https://orcid.org/0000-0002-2975-8793> • Ivica Benko, <https://orcid.org/0000-0002-1878-0880> • Mateja Lovrić, <https://orcid.org/0000-0003-1457-6521> • Ivan Zeljković, <https://orcid.org/0000-0002-4550-4056> • Mirela Adamović, <https://orcid.org/0000-0003-4922-7436> • Marina Žanić, <https://orcid.org/0000-0001-5123-8586> • Marija Grlić, <https://orcid.org/0000-0002-4288-9659> • Mario Tomašević, <https://orcid.org/0000-0003-0931-9272> • Ivan Horvat, <https://orcid.org/0000-0002-0480-7341>

Introduction: Pulmonary vein isolation (PVI) using freezing method, known as cryoballoon ablation (CBA), involves reaching temperatures as low as -70°C. As a novel method for cardiac ablation, it has proven to be equally effective compared to radiofrequency ablation. CBA is primarily used in treating atrial fibrillation (AF) in individuals who continue to have symptoms despite therapy or have developed resistance or intolerance to antiarrhythmic drugs. While generally considered safe, complications can still occur. This paper discusses gastroparesis, a rare but potential complication following CBA. Gastroparesis results in delayed gastric emptying.¹

Case report: We present a 59-year-old female patient, who was treated with CBA for paroxysmal AF. Her medical history included breast cancer surgery, chemotherapy, radiotherapy, and ongoing hormone therapy. After chemotherapy, episodes of AF began, initially brief and infrequent but becoming more frequent and intense over time, for which she was examined in Emergency Department (ED) multiple times. During her hospital stay CBA was performed. She remained hemodynamically stable throughout the procedure, with the lowest temperature reaching -56°C. The patient had no immediate complaints and was discharged the next day in a stable condition. However, two days after the procedure, the patient returned to the ED with severe abdominal distension caused by food retention. Fluoroscopy revealed a highly distended stomach extending to the pelvic inlet, with weakened peristalsis but no pyloric damage. Gastroscopy showed solid food remnants in the esophagus and stomach. Oral intake was suspended, and gastrointestinal decompressions were performed multiple times. After seven days of hospitalization, the patient's condition improved, and she was discharged with dietary recommendations.

Conclusion: It is crucial to emphasize that complications from CBA may not always manifest during or immediately after the procedure. In rare cases, symptoms can develop several days later. Patients may not associate these symptoms with the procedure, highlighting the importance of thorough patient education. Medical staff should also be aware of potential complications and trained to manage them efficiently, ensuring timely and effective care.^{2,3}

RECEIVED:
October 13, 2024

ACCEPTED:
October 31, 2024



LITERATURE

1. Kuwahara T, Takahashi A, Takahashi Y, Kobori A, Miyazaki S, Takei A, et al. Clinical characteristics and management of periesophageal vagal nerve injury complicating left atrial ablation of atrial fibrillation: lessons from eleven cases. *J Cardiovasc Electrophysiol.* 2013 Aug;24(8):847-51. <https://doi.org/10.1111/jce.12130>
2. Guiot A, Savouré A, Godin B, Anselme F. Collateral nervous damages after cryoballoon pulmonary vein isolation. *J Cardiovasc Electrophysiol.* 2012 Apr;23(4):346-51. <https://doi.org/10.1111/j.1540-8167.2011.02219.x>
3. Sunata Y, Mori H, Hirai Y, Kubosawa Y, Banno S, Kinoshita S, et al. A Case of Gastroparesis after Cryoballoon Ablation followed by Medication-Induced Recovery within 6 Months. *Case Rep Gastroenterol.* 2018 Aug 23;12(2):473-478. <https://doi.org/10.1159/000492213>