

# Giant Megacolon in Chagasic Cardiomyopathy: A Challenging Combination

Anderson Oliveira Estevan<sup>1</sup>  and Aguinaldo Freitas Jr.<sup>1</sup> 

Universidade Federal de Goiás,<sup>1</sup> Goiânia, GO – Brazil

This case concerns a 62-year-old man diagnosed with chagasic cardiomyopathy, presenting with a dilated and arrhythmogenic form, showing significant ventricular dysfunction, and currently undergoing cardiac resynchronization therapy with a previously implanted implantable cardioverter defibrillator. In the outpatient setting prior to admission, the patient's medical records indicate recurrent ventricular arrhythmias and multiple appropriate shocks from the device over recent years.

Upon admission to the emergency department, the patient complained of severe asthenia, abdominal pain, postprandial vomiting, and choking persisting for a week. His current medication regimen included losartan 100 mg/day, carvedilol 50 mg/day, spironolactone 25 mg/day, empagliflozin 25 mg/day, furosemide 80 mg/day, acetylsalicylic acid 100 mg/day, and atorvastatin 40 mg/day. During the physical examination upon admission, a significant drop in general condition, cachexia, blood pressure of 84x57 mmHg, and heart rate of 93 bpm were observed. In addition to hypotension, cold extremities and prolonged capillary refill time were noted. There were no peripheral edema, jugular distension or pulmonary congestion. In addition, there was significant abdominal distension and pain on palpation. Based on the patient's clinical history and physical examination findings, a diagnosis of acute obstructive abdomen and decompensated heart failure (HF) with an L-profile was determined.

Upon admission, a transthoracic Doppler echocardiogram was conducted, revealing a left ventricular diameter of 7.2 cm and an LVEF of 14%. Additionally, an abdominal computed tomography scan (Figure 1) was performed, highlighting the complexity of the case, as it shows significant dilation of the colon with displacement of the right diaphragmatic dome, enlargement of the mediastinum due to megaesophagus, and an increased cardiothoracic index. Figure 2 shows an important dolichomegaesophagus (as indicated by the arrow), and Figure 3 indicates a megacolon with significant coprostasis.

The patient was admitted to the intensive care unit, where hemodynamic support was provided with inotropic infusion (Dobutamine). After weaning from the inotrope and showing greater clinical stability, the patient underwent laparotomy with rectosigmoidectomy and the creation of a colostomy. After surgery, he was discharged with a nutritional rehabilitation program, maintaining regular outpatient follow-up.

According to the World Health Organization, approximately 7 million people worldwide are infected with Chagas disease, with most cases concentrated in Latin America. Brazil alone has approximately 1.2 million infected individuals, with an estimated 20% to 30% developing the cardiac form of the disease and while around 10% presenting with the digestive form.<sup>1,2</sup> Similar to the cardiac system, neural denervation also affects the digestive system in Chagas disease, contributing to the progression of conditions like megaesophagus and megacolon.<sup>2</sup> The case reported underscores the importance of cardiologists being vigilant regarding intestinal complications in patients with chagasic heart disease, as intestinal pathology exacerbates malnutrition, leads to more frequent decompensation, and worsens the prognosis of these patients. During the evaluation of patients with chagasic heart disease, it is crucial to consider the possibility of intestinal involvement by gathering a thorough clinical history and conducting relevant complementary tests such as contrast radiography, computed tomography, manometry, and digestive endoscopy to aid in differential diagnosis. This case shows that intestinal involvement was the cause of HF decompensation, in addition to contributing greatly, together with heart disease, to the marked cachexia observed in this patient.

Cachexia affects up to 15% of patients with HF with reduced ejection fraction. This finding contributes to reduced functional capacity, increased hospitalization rates, and shorter survival.<sup>3</sup> A Brazilian study revealed that malnutrition and cachexia correlate with higher mortality rates and an increased need for heart transplantation in patients with Chagas cardiomyopathy.<sup>4,5</sup>

The case reported underscores the complexity and challenges in managing patients with the mixed form of Chagas disease. Severe ventricular dysfunction and advanced malnutrition, as observed here, may limit surgical interventions, both in outpatient and urgent/emergency settings. These patients face elevated risks of cardiac decompensation during abdominal procedures due to hemodynamic compromise and complex drug interactions. A multidisciplinary approach involving cardiologists, gastroenterologists, and surgeons is crucial to optimize therapeutic outcomes. Additionally, meticulous assessment

## Keywords

Chagas Cardiomyopathy; Chagas Disease; Megacolon

**Mailing Address:** Anderson Oliveira Estevan •

Universidade Federal de Goiás – Cardiologia - R. 235, s/n. Postal Code

74605-220, Setor Leste Universitário, Goiânia, GO – Brazil

E-mail: estevan.anderson@hotmail.com

Manuscript received February 26, 2024, revised manuscript May 27, 2024, accepted May 30, 2024

Editor responsible for the review: Luis Beck-da-Silva

**DOI:** <https://doi.org/10.36660/abchf.202400111>

of hemodynamic status and close monitoring are imperative to prevent perioperative complications. Treatment must always be tailored to the patient's needs by considering their nutritional status and gastrointestinal functionality, always aiming to improve their quality of life.<sup>2,3,5</sup>

The complexity of managing this patient was exacerbated by advanced cardiac involvement, recurrent arrhythmias,

and intestinal/nutritional complications, underscoring the severity of the mixed form of Chagas disease, which emphasizes the necessity of a multidisciplinary approach for optimal patient care. The case underscores the significance of considering digestive system involvement in patients with chagasic heart disease, emphasizing the importance of integrated strategies for effectively managing this multifaceted condition.

## Author Contributions

Conception and design of the research; Acquisition of data; Analysis and interpretation of the data; Statistical analysis; Obtaining financing; Writing of the manuscript and Critical revision of the manuscript for content: Estevan AO e Freitas Jr. A.

## Potential conflict of interest

No potential conflict of interest relevant to this article was reported.

## Sources of funding

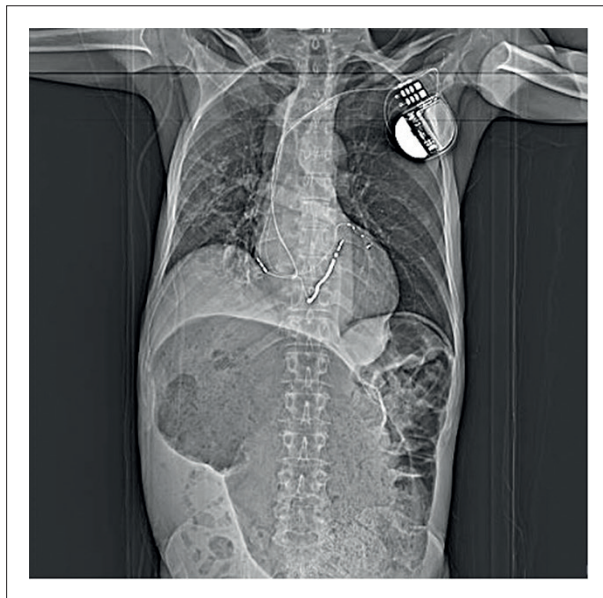
There were no external funding sources for this study.

## Study association

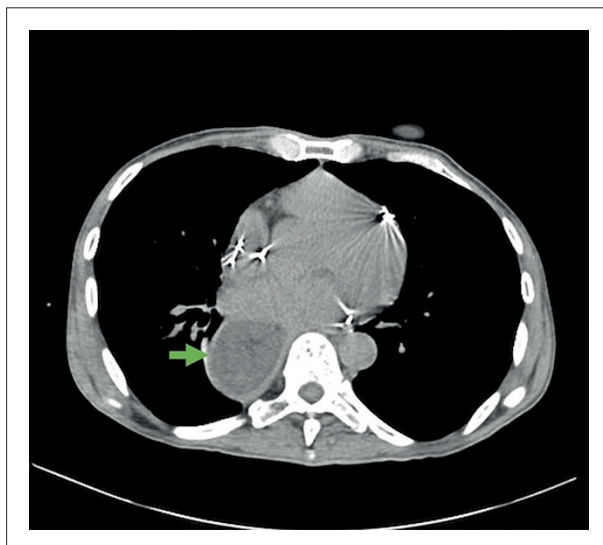
This study is not associated with any thesis or dissertation work.

## Ethics approval and consent to participate

This article does not contain any studies with human participants or animals performed by any of the authors.



**Figure 1** – Radiographic projection on computed tomography of a 62-year-old male patient's abdomen with chagasic cardiomyopathy. Note the presence of an implantable cardioverter defibrillator (ICD) and the increased cardiothoracic index. The image also reveals the dolichomegasophagus (widening of the mediastinum) and enlarged megacolon, with signs of coprostasis and displacement of the right diaphragmatic dome.



**Figure 2** – Computed tomography of the chest in axial section of a 62-year-old male patient with mixed Chagas disease. The arrow points to significant dilation of the esophagus (dolichomegasophagus), with a large amount of food residue inside.



**Figure 3** – Computed tomography of the abdomen in the axial section of a 62-year-old male patient with mixed Chagas disease. The image shows a large megacolon with significant coprostasis and noteworthy gas distension.

## References

1. World Health Organization. Chagas Disease (American Trypanosomiasis) [Internet]. Geneva: World Health Organization; 2021 [cited 2022 Oct 7]. Available from: [www.who.int/en/news-room/fact-sheets/detail/chagas-disease-\(american-trypanosomiasis\)](http://www.who.int/en/news-room/fact-sheets/detail/chagas-disease-(american-trypanosomiasis)).
2. Marin-Neto JA, Rassi A Jr, Oliveira GMM, Correia LCL, Ramos AN Jr, Luquetti AO, et al. SBC Guideline on the Diagnosis and Treatment of Patients with Cardiomyopathy of Chagas Disease - 2023. *Arq Bras Cardiol.* 2023;120(6):e20230269. doi: 10.36660/abc.20230269.
3. Rohde LE, Montera MW, Bocchi EA, Clausell NO, Albuquerque DC, Rassi S, et al. Diretriz Brasileira de Insuficiência Cardíaca Crônica e Aguda. *Arq Bras Cardiol.* 2018;111(3):436-539. doi: 10.5935/abc.20180190.
4. Rassi S, Rassi DDC, Freitas AF Jr. The Importance of Assessing Malnutrition and Cachexia in Chagas Cardiomyopathy. *Arq Bras Cardiol.* 2022;118(1):12-13. doi: 10.36660/abc.20210919.
5. Tavares LCA, Lage SHG, Bocchi EA, Issa VS. Desnutrição e Caquexia na Insuficiência Cardíaca Descompensada e Cardiomiopatia Chagásica: Ocorrência e Associação com Desfechos Hospitalares. *Arq Bras Cardiol.* 2022; 118(1):3-11. doi: <https://doi.org/10.36660/abc.20200644>.



This is an open-access article distributed under the terms of the Creative Commons Attribution License