Rev Port Cardiol. 2019;38(5):359–360

Revista Portuguesa de
Cardiologia
Portuguese Journal of Cardiology
www.revportcardiol.org

EDITORIAL COMMENT

Prognosis of Takotsubo syndrome in Portugal

Prognóstico de síndrome de Takotsubo em Portugal

Jorge Mimoso

Serviço de Cardiologia, Centro Hospitalar e Universitário do Algarve, Faro, Portugal

Takotsubo syndrome (TTS) was first described in the early 1990s by Sato et al. in the Japanese population, as a transient cardiomyopathy after a stressful event in the absence of coronary artery disease, due to multivessel coronary spasm.[1] This was the first pathophysiological mechanism put forward to explain this syndrome, but its precise etiology and pathophysiology remain unknown, and there are other hypotheses, including abnormalities in coronary microvascular function and catecholamine-mediated cardiotoxicity.

TTS predominantly affects women. Its symptoms and signs are similar to those of acute coronary syndrome: chest pain, dyspnea, syncope, electrocardiographic abnormalities, and cardiac enzyme changes. The acute left ventricular dysfunction seen in TTS has varying wall motion patterns, typical apical or midventricular ballooning and rarely, basal and focal forms.[2]

To differentiate TTS from myocardial infarction, it is necessary to perform coronary angiography in the acute stage, to exclude significant coronary artery disease. Establishing the diagnosis is particularly important if fibrinolytic therapy is being considered for a presumed diagnosis of ST-elevation myocardial infarction. Inappropriate administration of fibrinolytics to a patient with TTS may lead to harm, and it would be reasonable to transfer a patient suspected of the cardiomyopathy for emergency coronary angiography.

E-mail address: vmimoso@gmail.com

In most cases TTS is a benign entity with a good prognosis, but severe complications may occur, including heart failure, cardiogenic shock, arrhythmias, mitral regurgitation, thrombus formation, mechanical complications, and even death.

Because the prevalence of TTS is low, its natural history, management, and outcome are not completely understood, and single-center studies are underpowered to obtain meaningful conclusions, a consortium of 26 centers in Europe and the USA established the InterTAK Registry for Takotsubo Syndrome.[3] Currently, 48 cardiovascular centers in 15 countries are participating in this unique registry.

The main goals of the InterTAK registry are to compare clinical practice regarding diagnosis and management, to promote medical resource and its impact on outcome in different countries, to prospectively analyze the value of different treatment strategies to predict disease-related outcomes, to observe follow-up status and assess immediate, in-hospital and long-term outcomes, and to assess pathophysiology and to find a biomarker for TTS.

In this issue of the *Journal*, Bento et al. present the results of a Portuguese multicenter study in which all patients diagnosed with TTS between 2002 and 2016 in twelve Portuguese hospitals were included, initially retrospectively and subsequently prospectively.[4] Patients were selected according to the Mayo Clinic diagnostic criteria.[5] Short- and medium-term clinical complications and mortality were assessed and independent predictors of hospital complications and prognostic factors were determined.

A total of 234 patients with TTS were included, 90% female, and in 65% of the patients a triggering factor was identified. The apical form was the most frequent (78%), followed by midventricular (16%). These results are similar to the InterTAK Registry data.[3] During hospitalization, 33% of the patients had complications, of which acute heart failure was the most common (24%). Forty-nine percent completely recovered left ventricular function and 2% died during hospitalization.

In multivariate analysis, atherosclerotic lesions in the coronary arteries, lower LVEF on admission, chronic kidney disease and clinical presentation with dyspnea were independent predictors of in-hospital clinical complications.

At the mean follow-up of 33±33 months, 12% of the patients had complications. In 4% there was TTS recurrence, 3% had stroke, all-cause mortality was 4% and cardiac mortality was 0.9%. Prolonged QTc interval on the admission electrocardiogram was a predictor of clinical complications at follow-up.

Bento et al. were able to recruit more patients in this multicenter study than in other similar studies in France[6] and Spain.[7] This is therefore a representative sample of TTS patients in Portugal. However, one important limitation of this study was that participating centers did not routinely use laboratory hormone tests or imaging to exclude pheochromocytoma or myocarditis.

This multicenter study of TTS in Portugal not only increases our knowledge of the natural history of the disease, but may also lead to randomized trials of pharmacotherapy aimed at strategies to promote myocardial recovery and prevent recurrence.

Conflicts of interest

The author has no conflicts of interest to declare.

References

1. Sato H, Taiteishi H, Uchida T. Takotsubo type cardiomyopathy due to multivessel spasm. In: Kodama K, Haze K, Hon M, editors. Clinical aspect of myocardial injury, Tokyo, Japan: from ischemia to heart failure. Kagakuhyouronsha; 1990. p. 56–64.
2. Templin C, Ghadri JR, Diekmann J, et al. Clinical features and outcomes of Takotsubo (stress) cardiomyopathy. N Engl J Med. 2015;373:929–38.
3. Ghadri J-R, Templin C. The InterTAK Registry for Takotsubo syndrome. Eur Heart J. 2016;37:2806–8.
4. Bento D, Azevedo O, Santos R, et al. Short- and medium-term prognosis of Takotsubo syndrome in a Portuguese population. Rev Port Cardiol. 2019;38:349–57.
5. Madhavan M, Prasad A. Proposed Mayo Clinic criteria for the diagnosis of Tako-Tsubo cardiomyopathy and long-term prognosis. Herz. 2010;35:240–3.
6. Yayehd K, N'da N, Belle L, et al. Management of Takotsubo cardiomyopathy in non-academic hospitals in France: the Observational French SyndromEs of TakoTsubo (OFSETT) study. Arch Cardiovasc Dis. 2016;109:4–12.
7. Núñez Gil IJ, Andrés M, Almendro Delia M, et al. Characterization of Tako-tsubo cardiomyopathy in Spain: results from the RETAKO National Registry. Rev Esp Cardiol. 2015;68:505–12.