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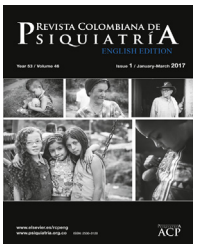

Case Report

Acute stress and broken heart syndrome. A case report☆

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ABSTRACT

Introduction: Stress has been associated with acute heart failure syndrome, with significant morbidity and mortality.
Methodology: Case report and non-systematic review of relevant literature.
Case report: A 65-year-old woman with a history of untreated generalised anxiety disorder who, after the violent death of a child, suffered oppressive pain in the precordium, neck and upper left limb that lasted more than 30 min; the initial clinical suspicion was acute coronary syndrome.
Literature review: Takotsubo cardiomyopathy is characterised by left ventricular dysfunction, reversible in most cases, and altered ventricular wall motion in the absence of coronary abnormalities, associated with high plasma concentrations of catecholamines, which in most cases coincide with an acute physical or emotional stressor.
Conclusions: Takotsubo cardiomyopathy is a differential diagnosis that physicians treating patients with suspected coronary syndrome should consider, especially in postmenopausal women with a history of psychiatric comorbidities such as generalised anxiety disorder.

Síndrome del corazón roto y estrés agudo. A propósito de un caso

Palabras clave:
Miocardiopatía de *tako-tsubo*
Estrés fisiológico
Estrés psicológico
Trastornos de ansiedad

RESUMEN

Introducción: El estrés se ha asociado con un síndrome de insuficiencia cardiaca aguda, con morbilidad y mortalidad importantes.
Metodología: Reporte de caso y revisión no sistemática de la literatura relevante.
Presentación del caso: Mujer de 65 años con antecedente de trastorno de ansiedad generalizada no tratado que, tras la muerte violenta de un hijo, sufría dolor opresivo en el precordio,

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el cuello y la extremidad superior izquierda que duraba más de 30 min; la sospecha clínica inicial fue síndrome coronario agudo.

Revisión de la literatura: La miocardiopatía de *tako-tsubo* se caracteriza por disfunción ventricular izquierda, reversible en la mayoría de los casos, y alteraciones del movimiento de la pared ventricular sin anormalidades coronarias, asociado a altas concentraciones plasmáticas de catecolaminas, que en la mayoría de los casos coinciden con un estresor agudo de tipo físico o emocional.

Conclusiones: La miocardiopatía de *tako-tsubo* es un diagnóstico diferencial que los médicos que atienden a pacientes con sospecha de síndrome coronario deben considerar, especialmente ante mujeres posmenopáusicas con antecedentes de comorbilidades psiquiátricas como el trastorno de ansiedad generalizada.

Introduction

Takotsubo cardiomyopathy, is usually an acute, reversible disease that is easily confused with acute coronary syndrome.[1] It is characterised by reduced left ventricular ejection fraction associated with abnormal ventricular wall motion patterns. It usually presents in the context of a physical or psychological stressor,[2] and 90% of cases occur in women, mainly postmenopausal.[3] This cardiomyopathy is found in 1–3% of all patients with suspected coronary syndrome, and 6–9% if only women are considered.[1] Studies have reported that patients with takotsubo cardiomyopathy are more likely to present generalised anxiety disorder or a family history of psychiatric disorders compared to the general population.[4] Although this disease is typically brought on by negative stressful events, it has recently been associated with positive emotions.[5]

The aim of this article is to report the case of a woman with takotsubo cardiomyopathy associated with acute stress.

Methods

Case report and non-systematic review of relevant literature. The patient was treated in the emergency department of a private clinic specialising in highly complex cardiovascular diseases in Medellín (Colombia).

Informed consent was obtained from the patient after clearly explaining that her clinical information would be used for academic purposes, and she was ensured of the confidentiality of her data.

The study was conducted according to the guidelines of the Belmont report[6] and the Declaration of Helsinki.[7] The literature search was performed on MEDLINE and Google Scholar. Meta-analyses, systematic reviews and case reports published in English and Spanish, with no time limits, were included. The search criterion was: "Takotsubo cardiomyopathy".

Presentation of the case

A 65-year-old woman with a history of high blood pressure and dyslipidaemia. She presented at the emergency department with precordial pain radiating to the neck and ipsilateral upper extremity, which began after the violent death of her son and lasted more than 30 min. The emergency department diagnosed the symptoms as an acute coronary syndrome. At admission to the emergency department, the patient's vital signs were: blood pressure, 116/68 mmHg; heart rate, 68 bpm; respiratory rate, 18 rpm and oxygen saturation, 96%. The physical examination was within normal limits. An electrocardiogram showed T-wave inversion on the inferior wall, with no other changes, and troponin levels of 2.19 ng/ml (Table 1). Treatment was started for a diagnosis of acute myocardial infarction without ST segment elevation. After performing risk stratification, we decided on a prompt invasive strategy. Transthoracic echocardiography showed abnormal diastolic function due to type I relaxation impairment, with an ejection fraction of 35%, together with left ventricular apical akinesis causing the "ballooning" shown in the echocardiographic image of the left ventricle during systole (Figs. 1 and 2). The coronary angiography was normal.

Liaison psychiatry evaluated the patient by means of an unstructured psychiatric interview, that found a sad patient who cried throughout the interview. She described in detail

Table 1 – Laboratory tests.

Paraclinical	Value	Reference value
Creatinine	0.49 mg/dl	0.52–1.04
BUN	9.4 mg/dl	7–17
Urea	20.2 mg/dl	15–36
Chlorine	97.8 mmol/l	98–107
Magnesium	2.1 mg/dl	1.5–2.3
Potassium	3.86 mmol/l	3.5–5.1
Sodium	131 mmol/l	137–145
TSH	0.92 μU/ml	0.49–4.67
Total cholesterol	162.7 mg/dl	170–200
HDLc	58.2 mg/dl	40–60
LDLc (calculated)	83.3 mg/dl	–
Triglycerides	106 mg/dl	40–150
Glycohemoglobin	5.9%	4.4–6.4
Haemoglobin	13.9 g/dl	12–16
Haematocrit	41.6%	36–48
MCV	82 fl	82–98
Leukocytes	9850/μl	4500–11,000
Platelets	398,000/μl	150,000–450,000