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**Takotsubo Syndrome: On the Purpose of a Case** **Hernando Viloria Sanchez\***Department of Internal Medicine,  
Regional Hospital our lady of Mercedes,  
Corozal, Colombia**Abstract**

Takotsubo syndrome occurs in response to a stressful event that causes acute dilation of the left ventricle, ventricular dysfunction, elevation of biomarkers of myocardial damage, and electrocardiographic changes without evidence of significant coronary lesions. It typically occurs in postmenopausal women and is reversible in most cases. A series of two female patients, in the fifth and eighth decade of life, with takotsubo syndrome is reported. The incidence in Latin America is unknown, it was initially described in the Far East (Japan), there are few cases reported in Colombia, however, this case occurred very recently, which makes us suspect that this pathology is more frequent than expected in our country. Medium, and which are probably underdiagnosed due to their similarity to acute coronary syndrome.

**Keywords:** Takotsubo syndrome; Colombia; Cardiomyopathy

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**Introduction**

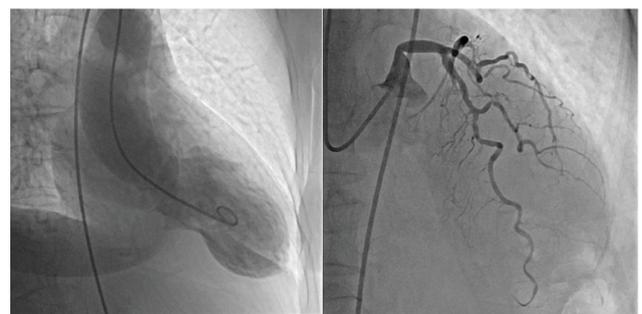
The first description of Takotsubo syndrome was made in 1990 by Dr. Hikaru Sato, who made a report of a left ventricular dysfunction, which acquired a silhouette similar to an ancient Japanese vessel that is used to fish octopus (tako=octopus, tsubo=vessel). For almost three decades, this entity had various names such as transient apical dysfunction, transient apical dyskinesia, transient apical ballooning syndrome, broken heart syndrome, or stress cardiomyopathy. Currently, it is considered a reversible acute heart failure syndrome, the product of a catecholaminergic myocardial stunning; which can be primary if the patient is admitted to the hospital for the clinical picture of Takotsubo, or secondary if he is hospitalized for another cause and then presents Takotsubo syndrome [1].

It generally affects women around 60-80 years of age, without relevant cardiovascular risk factors; it is frequently related to emotional and/or physical stress and runs a benign course [2].

**Presentation of the Case**

A 54-year-old female, without cardiovascular risk factors, went to the Emergency Department immediately after receiving the news of her son's death, with a typical picture of angina, oppressive chest pain, duration greater than 30 minutes, without radiation, accompanied by adrenergic discharge and dyspnea, documented by electrocardiogram with elevation of the ST segment in anterolateral face, admission paraclinics, hemogram (leukocytes: 6,600, hemoglobin 11.4, platelets: 273.00) sodium 139, creatinine 0.9, BUN 19 and troponin 1.87 are performed Therefore, she was admitted with a diagnosis of acute coronary syndrome with ST

elevation and was referred to the coronary ICU, where they were managed with oral metoprolol and dual antiplatelet loading, later evolving with emetic symptoms, presenting a new episode of supraventricular tachycardia during her medical transfer. , requiring management with a bolus of 300 mg of amiodarone, with subsequent hypotension, being necessary and he start of vasoactive with norepinephrine, upon admission to the ICU he presents high blood pressure levels, for which vasoactive is suspended. Rescue cardiac catheterization was performed at 12 hours, with the following finding: left and right coronary arteries: normal, left dominant pattern. Ventriculography: non-dilated antero-apical and inferior akinesia left ventricle, ejection fraction (LVEF) of 40% (**Figure 1**).



**Figure 1** Diagnosis of Tako Tsubo síndrome.

Concluding with the diagnosis of Tako Tsubo syndrome. During her stay in the Intensive Care Unit, she is treated with antiplatelet agents, low molecular weight heparin, statins and ACE inhibitors and beta-blockers; 48 hours later the inotropics and vasopressor amines are removed. She was discharged from the service due to clinical improvement with propranolol-type beta-blocker, gastric protection and antiplatelet therapy with a cardiology control appointment in 1 month.

## Discussion

Takotsubo Syndrome is an entity described in Japan in 1990 by Sato. It was not until 2001, with a study by Tsuchihashi with 88 patients, when this pathology was defined. Its name is due to the shape of the left ventricle, which is reminiscent of the vessels used in Japan for octopus fishing. It is an entity that mainly affects women over 55 years of age who are subjected to a high degree of anxiety, be it physical or emotional and that can be related in approximately 50% to arterial hypertension. Possible triggers have been related to surgical history, multiple endocrine neoplasms, Guillain Barré Syndrome, sepsis, thyrotoxicosis, sudden airway obstruction, etc., [3].

Different theories have been proposed to explain, without success, the etiopathogenesis of Takotsubo syndrome. The sudden elevation of catecholamines, the spasm and/or tortuosity of the coronary arteries [4].

Clinically, 70-90% present chest pain with anginal characteristics that can be irradiated and be accompanied by vegetative courtship. A much smaller percentage presents with sudden dyspnea and almost anecdotally with cardiogenic shock [4].

To reach the diagnosis, one of the tests to be carried out is an electrocardiogram, and an elevation of the ST segment can be found in approximately 50% of cases. A negative precordial T wave and a Q wave may also appear. The chest radiograph

may be normal or show signs of acute lung edema or heart failure. Echocardiography performed in the acute phase usually shows a characteristic and striking pattern of basal hyperkinesis accompanied by dyskinesia or akinesia of the middle and/or apical segments of the left ventricle. If, on the other hand, we observe a pattern of basal akinesia, we call this variant Reverse Takotsubo Syndrome. Coronary angiography usually shows an uninterrupted coronary artery flow, being the set of clinical results, coronary angiography, the segmental alterations of contractility and the benignity of the picture is what supports the diagnosis of takotsubo syndrome and allows a Differential diagnosis with other types of AMI with normal coronary arteries [5,6].

According to those previously stated, in the literature there are multiple controversies in relation to the diagnostic criteria; The most accepted is the modified criterion from May proposed in 2008, in which 4 parameters are evaluated: LV dyskinesia, akinesia or hypokinesia; sometimes there is a triggering stressful situation, although not always; Absence of obstructive coronary disease or angiographic evidence of acute plaque rupture; New ECG abnormalities (ST elevation and/or T wave inversion) or modest change in troponin; Absence of Pheochromocytoma and/or Myocarditis [7].

## Conclusion

Takotsubo syndrome is a surprising clinical entity due to its presentation very similar to acute coronary syndrome; however, it presents a better evolution and prognosis. The report of this recently presented clinical case suggests that perhaps the condition is more frequent than expected in our environment and that it is underdiagnosed or confused with acute coronary syndrome, which suggests placing more emphasis on performing cardiac catheterization for deferential diagnosis.

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