

RESEARCH ARTICLE

INVERTED TAKOTSUBO CARDIOMYOPATHY FOLLOWING BRAIN HEMATOMA

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..... Abstract Manuscript Info Inverted takotsubo is an entity that until now overlooked by healthcare Manuscript History Received: 20 September 2020 practitioners. Its appearance in severe neurological disorders makes him Final Accepted: 24 October 2020 a subject of exciting research. In this article, we report the case of a Published: November 2020 women 37 years old presenting with during a comitial attack associated 2 hours later with chest pain mimicking acute coronary Keywords: syndrome.Echocardiography revealed an extensive left ventricular InvertedTakotsubo,Neurological akinesis except at the apex. Coronary angiography performed Disorders, Cardiac MRI hasshowen healthy coronary arteries. Cardiac magnetic resonance imaging (MRI) analysis confirms the diagnosis of inverted takotsubo cardiomyopathy.

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Introduction:-

Reverse Takotsubo cardiomyopathy is an exceptional and rather unknown variant of stress cardiomyopathy, which presents with basal ballooning instead of apical ballooning[1]. It has been described in patient with phéochromocytoma, alcohol induced pancreatitis, and amphetamine or cannabis use [2]. There are significant differences in the patient age and clinical profiles between classic and reverse takotsubo's cardiomyopathy. Acute and reversible LV dysfunction in the absence of significant angiographic coronary stenosis is the condition, usually provoked by an episode of emotional or physical stress including acute neurologic disorders [3]. This entity is currently recognized as a novel heart neurological stress-related syndrome.

Case report:

This is a 37-year-old patient with multiple cardiovascular risk factors, namely: hypertension, diabetes and android obesity, admitted to the emergency department on suspicion of an acute coronary syndrome following a comitial crisis.

Clinical examination finds signs of left heart failure, without focal neurological deficit. Troponin was high. The ECG describes: ST segment elevation in AVR and an ascending and diffuse under ST segment.

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Figure 1:- Electrocardiogram

Brain CT:

Diagnoses a left capsulo-lenticular hematoma. Echocardiography was performed demonstrating a circumferential akinesia of the basal segment of all walls and apical hyperkinesia with an altered LVEF to 34%.

In front of this, a coronary angiography was imposed urgently, returning strictly normal, hence the early realization of a cardiac MRI which in turn confirms the diagnosisof reverse Takotsubo and eliminates that of IDM or myocarditis.



Figure 2:- Coronary angiography



Figure 3:- Cardiac MRI

The evolution was marked by the rapid regression of congestive signs under a low dose of diuretics; the patient remained neurologically stable. Three month later, the control demonstrated a complete recovery of myocardial contraction. LV ejection fraction was 60%.

Discussion:-

Inverted takotsubo paradoxically affects young women unlike the classic form. This may be due probably to a larger distribution of adrenergic receptors in the basal segments in this population [4]. In a study [4], the relative frequencies of classic, inverted, and mid-cavitary types of Takotsubo cardiomyopathy were found to be 67%, 23%, and 10%, respectively [5].

The pathophysiology remains poorly understood, however, they are some solids arguments in favour of sympathetic hyperactivity following mental or physical stress including neurologic disorders resulting in direct toxicity on myocardia and vascular endothelium.

In our case, the appearance of inverted takotsubo was simultaneous to the neurological disorders in acute phase.For this, we must call for awareness of this novel heart neurological stress-related syndrome as a rare extra-neurological manifestation.

In the literature, several Central Nervous System (CNS) diseases could trigger takotsuboespecially during relapses of multiple sclerosis.

The clinical presentation and lab results mimics acute coronary syndrome. Cardiaccatheterization must be performed urgently to demonstrate the absence of coronary artery disease.

Echocardiography reveals abnormal wall motion(basal) abnormality and decreased function. Recourse to cardiac MRI is necessary to refine the uncertain diagnosis of this entity [6].

Management of reverse takotsubo is predominantly symptomatic, similar to that classical form [7].

The usual evolution is towards resolution of the ventricular dysmorphia, improvement of systolic function, but research of complications is necessary and dominatedby LV thrombi, pericardial effusion, and possibility of recurrence.Finally, the best mortality predictors are decreased ventricular function, development of atrial fibrillation, or neurologic disease.

Conclusion:-

Reverse takotsubo is often missed, is an acute reversible heart failure syndrome. Our case recalls the rarity and the possible presence of this entity as an extra-neurological manifestation in the acute phase, without forgetting the importance of cardiac MRI as a relevant non-invasive tool in the diagnosis of TS.

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