

Takotsubo cardiomyopathy induced by a suicide attempt

Kardiomiopatia takotsubo po próbie samobójczej

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A 53-year-old male with no previous cardiovascular history was transferred from a psychiatric ward for urgent angiography with a diagnosis of acute coronary syndrome (ACS). The prior admission was due to a suicide attempt as a result of bipolar affective disease. The patient had been treated with paroxetine but had discontinued the therapy two months before the suicide attempt. As a result of jumping from the fourth floor, he experienced a fractured left forearm, fractured ribs, and pneumothorax. At the Coronary Care Unit (CCU), the patient denied stenocardia, but was admitted with ST-segment elevation in electrocardiogram and positive troponin I level of 0.471 ng/mL. Bedside echocardiography revealed akinesia of apical segments and hyperkinesis of basal segments with an estimated left ventricular (LV) ejection fraction (EF) of 40% (Fig. 1A, B). Moreover, mild mitral regurgitation and obstruction of LV outflow tract (maximal flow velocity of 4.3 m/s, maximal pressure gradient of 74 mm Hg, Fig. 1B, inset) were documented with a systolic anterior motion of mitral valve leaflets. In subsequent coronary angiography, no significant coronary artery disease was documented (Fig. 1C, D). Subsequent ventriculography confirmed a typical takotsubo cardiomyopathy (TTC). In echocardiography five days later, the LV function was essentially improved up to 55%. The acute course of TTC was uneventful, and on the fifth day of hospitalisation at the CCU the patient was transferred to the Department of Psychiatry for further treatment of his affective disorder. TTC is mainly precipitated by emotional stress, but the mechanism of reversible LVEF impairment remains unknown. Exaggerated sympathetic stimulation may play a key role in TTC above and beyond the burden of conventional cardiovascular risk factors. A suicide attempt comprises extreme emotional distress, and therefore could potentially provoke a TTC event. The susceptibility to TTC strongly related to psychiatric diseases such as chronic anxiety disorder or depression has been previously hypothesised. The abrupt interruption of selective serotonin reuptake inhibitor treatment has been postulated to increase the activation of the stress system and sympathetic nervous syndrome. The excessive activity of the noradrenergic system and hypothalamic-pituitary-adrenal-axis causes dysfunction of the serotonergic system, increasing the risk of suicidal behaviour. We here present an interesting case of a suicide attempt triggering a TTC event. This particular case highlights the key role that mental disorders may play in TTC.

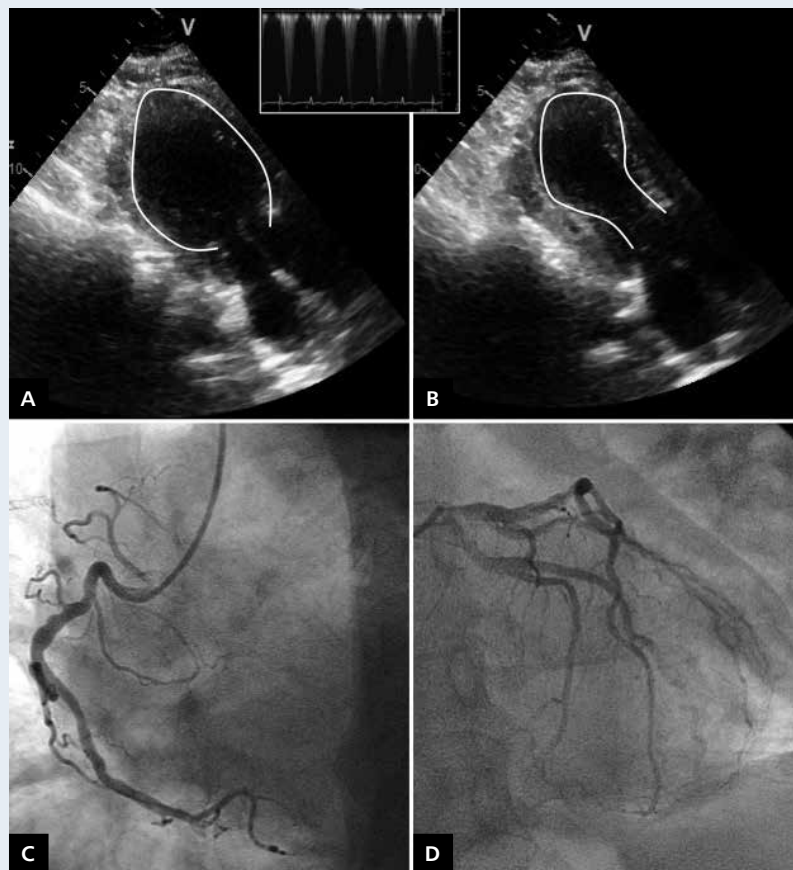


Figure 1. A, B. Bedside echocardiography; C, D. Coronary angiography

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