Takotsubo’s cardiomyopathy in the preoperative period of an emergent abdominal surgical procedure

Cardiomipatía de Takotsubo en el periodo preoperatorio de un procedimiento quirúrgico urgente

Dear Director,

Abdominal surgery in the context of an acute myocardial ischemia (AMI) has a high morbidity and mortality rate. It is estimated a 28% risk of infarction or death for patients been operated on less than 3 months from an acute coronary syndrome (ACS). Before surgery, a conventional or a stenting coronary angioplasty will probably be needed to decrease risks and improve patient’s prognosis. Takotsubo’s cardiomyopathy (TM) is characterized by an acute myocardial dysfunction, which is clinically similar to the AMI. It is supposed to be due to an excess of endogenous catecholamine and there’s no significative coronary atherosclerosis obstruction. It is estimated that it represents 0.2–2.6% of the cases of the ACS admitted in the ICU. Differential diagnosis is essential because it differs in treatment and prognosis. It is based on coronariography and echocardiography tests. In both syndromes elective surgeries must be delayed and they will only proceed with the emergent one’s.

Figure 1  ECG during acute phase of the Takotsubo cardiomyopathy.
We describe the case of a preoperative TM.

A 61-year-old man with a smoking history of a 45 packet-year presented with acute abdominal pain. Ischemic colitis vs. incarcerated hernia was the diagnosis suspected. In the preoperative tests it was found a significant ST-segment elevation (V2 and V3 leads). Once the patient was interviewed again, pain in the epigastric region as well as in the left lower hemiabdomen was declared. It was decided to postpone surgery until a cardiac enzymes test was done. Six hours later the patient showed a negative result on troponin test but a higher ST elevation in the ECG with greater extension (V2–V6 leads) (Fig. 1). With the suspicion of an acute ischemic myocardial syndrome with ST elevation, cardiac catheterization was carried out. No significant coronary stenosis was found. The ventriculogram showed apical dyskinesia and anterior hypokinesia, moderate systolic ventricular dysfunction, hypertrophy of the inferior segment of the interventricular wall with a significant subaortic pressure gradient of 55 mmHg. Takotsubo’s cardiomyopathy was diagnosed.

A single oral dose of 12.5 mg atenolol and 100 mg acetylsalicylic acid mg was given and it was agreed to proceed with surgery. It was conducted under general balanced anesthesia. Monitoring included invasive arterial (AP) and central venous pressures (VP), continuous DII and V5 ECG leads and pulse oximetry. During the procedure the patient suffered intraoperative hypotension. Surgical findings were an incarcerated inguinal hernia with ileum and sigma necrosis. A hemicolecystomy was performed. After surgery, he was transferred to the ICU. Nine days afterwards, the ECG and the echocardiography were normal. The patient was discharged home 29 days after the hospital admittance.

MT simulates an AMI. That was the first suspicion with our case. At the start of symptoms, chest pain, ECG changes and even elevation in Troponin can make these two syndromes indistinguishable. Differences in prognosis and treatment make a differential diagnosis necessary. A normal coronary angiography and characteristic echocardiogram and ventriculogram confirmed the diagnosis and permits definitive treatment. Contrary to the ACS, TM’s treatment is only supportive and usually will have an excellent long-term prognosis. The acute phase of this disorder can be followed by heart failure, arrhythmia or even death. However, days to weeks after this, all the abnormalities disappear. So, in this setting, elective surgery must always be delayed. The emergent cases, as the one we describe, will necessarily proceed with invasive monitoring, supportive treatment and close postoperative care.

In the perioperative setting, a stress-induced catecholamine release is quite common. Therefore, it is reasonable the appearance of TM both preoperative and postoperatively. A systematic review of the literature showed both of them with favorable outcomes, but in any of them there was the need of an urgent surgery.

It’s essential to be aware of the existence of this entity and its differential diagnosis in the management of patients with suspicion of ACS.

Bibliografía


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Objeciones sobre la indicación de radiografía de tórax preoperatoria en el paciente quirúrgico

Objections to the proposed indication for preoperative thoracic radiography in surgical patients

Sr. Director:

Hemos leído con especial interés el artículo sobre valoración anestésica preoperatoria y preparación del paciente quirúrgico, recientemente publicado en su revista 1. Nos sorprende que los autores no incluyan en la tabla 4 sobre recomendaciones para la solicitud de radiografía de tórax preoperatoria aquellas del National Institute for Clinical Excellence de 2003 2. Este organismo solo acepta la conveniencia inequívoca de la prueba (tras consenso de sendos paneles de expertos) en pacientes que cumplan los siguientes requisitos: ASA ≥ 3 con enfermedad cardiovascular o respiratoria severa y más de 60 años sometidos a cirugía altamente invasiva (cirugía grado 4 según la clasificación del National Institute for Clinical Excellence); también la indica en pacientes sometidos a cirugía cardíaca independientemente de su grado ASA, comorbilidad y edad. En el resto de casos en los que el paciente sufre enfermedad...