Severe Right Heart Failure Due to the Combination of Ebstein’s Anomaly and Pericardial Constriction

To the Editor,

We present the case of a 52-year-old male, smoker who drinks approximately 60 g of alcohol daily and is under observation for atrial fibrillation and an Ebstein anomaly that was causing massive tricuspid regurgitation (TR) and right heart failure (RHF), treated with diuretics. He was admitted due to a notable clinical worsening with severe ascites. A chest radiograph showed the presence of a left pleural effusion (Figure 1A) and the lateral view demonstrated a sharp line of pericardial calcification, indicating pericardial constriction (Figure 1B, arrow).

The pleural effusion proved to be transudative. Following multiple recurrences, a permanent intrapleural catheter was placed to drain the effusions as needed. Analysis of the ascitic fluid indicated that portal hypertension had caused the ascites. Although RHF could have caused it, we first had to ensure that it was not due to cirrhosis. The liver examination using ultrasound and fibroscan was inconclusive, and the laboratory tests (hemoglobin, platelets, creatinine, proteins, coagulation study, transaminases, and bilirubin) came back normal. Lastly, a transjugular liver biopsy showed that it was cirrhosis. The etiological study found no other causes in addition to those proposed a priori (alcohol and congestion), and the clinical, histopathological, and laboratory data indicated that congestion was the primary cause.1

The echocardiogram still indicated a diagnosis of Ebstein anomaly, and underlined its functional repercussions, the massive TR, and consequent right heart overload, which hindered the evaluation of echocardiographic signs of pericardial constriction. The multislice computerized tomography provided an anatomical definition of the Ebstein anomalies, and revealed extensive calcification of the right pericardium2 (Figure 2). During the heart catheterization, coronary disease was ruled out.
Letters to the Editor


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We read with great interest the recent case report by Agnelli et al related with alveolar hemorrhage following tirofiban treatment. Although large clinical trials have demonstrated the clinical effectiveness of therapy with glycoprotein IIb-IIIa inhibitors in patients with ischemic heart disease, combination therapy with aspirin, clopidogrel, and heparin can be associated with bleeding complications. Although major and minor bleeding complications are the most frequent adverse events associated with the use of glycoprotein IIb-IIIa inhibitors, alveolar hemorrhage, as a potentially fatal complication, is often under-recognized. On the basis of the low number of cases reported in the literature, we can conclude that clinical suspicion is required to diagnose this life-threatening complication. The number of patients in whom alveolar hemorrhage might have been misdiagnosed is unknown. Clinical findings in addition to a sudden fall in hemoglobin with hemoptysis following administration of glycoprotein IIb-IIIa inhibitors should alert physicians to the likelihood of this severe complication. In the literature, Ali et al were the first to report a case of pulmonary hemorrhage following tirofiban use and the second case was reported by Yılmaz et al. Although in previous studies, no association was clearly defined between the presence of underlying lung disease and the development of alveolar hemorrhage, Yılmaz and we performed the hemodynamic diagnosis of constriction.

After discussing the various treatment options, we proposed tricuspid repair with a right pericardiectomy. If the ascites is caused by the RHF, a class A-6 cirrhosis on the Child-Pugh scale would imply an acceptable surgical risk. However, if cirrhosis was the cause, class B-9 on the Child-Pugh scale would imply a high-risk procedure. Even so, a Model for End-Stage Liver Disease (MELD) score of 8 meant an improved prognosis.

The patient’s initial postoperative evolution was favourable, but RHF worsened on day 6. The echocardiogram showed severe residual TR and a large clot that was compressing the right ventricle. After another intervention, the patient’s progress was slow. First, he suffered from hepatorenal syndrome requiring hemodialysis. He then had severe pulmonary sepsis that triggered death of the patient 1 week after the second procedure.

Ebstein anomalies and pericardial constriction can be considered as rare diseases. It is extremely rare for both conditions to simultaneously appear in one patient. Symptoms are not sufficient to be able to diagnose the 2 conditions, requiring imaging tests and hemodynamic data. Cardiac cirrhosis intensifies the clinical manifestations of RHF and complicates patient care. Both tricuspid valve surgery and pericardiectomy have high mortality rates. Morbidity after cardiovascular surgery is much higher if the patient has cirrhosis, and the prognosis is influenced by the functional state of the liver disease. Although the Child-Pugh classification system is very useful for this objective, the MELD score has also been used in recent years, and its value has been demonstrated in tricuspid valve surgeries.

Juan L. Bonilla-Palomas, Amador López-Granados, Antonio L. Gámez-López and José M. Arizón del Prado
Servicio de Cardiología, Hospital Universitario Reina Sofia, Córdoba, Spain

REFERENCES