Hemorrhagic Pericarditis Leading to Cardiac Tamponade Following Abciximab Therapy

Sir,

A 70-year-old male presented to the Emergency Department of Jinnah Hospital Lahore, with a 3-hour history of sudden-onset, retrosternal, moderate to severe, crushing, central chest pain, which was associated with sweating, and unrelied by acetaminophen. Pain was non-pleuritic and non-positional. His previous history was significant for moderately controlled hypertension for 10 years, managed with atenolol. He had no family history of coronary artery disease, stroke, and peripheral vascular or atherosclerotic disease. Physical examination was unremarkable. The initial electrocardiogram (ECG) indicated typical ST-segment elevation in inferior leads and V4R with reciprocal ST depression in lead I and aVL, most consistent with acute inferior wall ST-segment elevation myocardial infarction (STEMI) with right ventricular infarction (RVI). The patient was initiated on aspirin, clopidogrel, sublingual nitrate and morphine, followed by streptokinase therapy.

On admission, laboratory evaluation revealed a white cell count 9500/mm³ (3,500 to 10,500/mm³); haematocrit, 42% (38.8 - 50.0%); platelets, 389,000/mm³ (150,000 to 450,000/mm³); C-reactive protein, 6.9 mg/L (< 5 mg/L); CK-MB 22.05 ng/mL (< 10 ng/mL) and cardiac troponin T, 0.157 ng/mL (< 0.1 ng/mL). An initial bedside echocardiography showed inferior wall hypokinesia. The chest pain subsided and ST-segment showed normalization. Subsequently, the patient was discharged from the hospital with stable vital signs. Five days later, emergent pericardiocentesis was performed and around 650 cc blood containing fluid was drained. This resulted in stabilization of blood pressure with resolution of the symptoms. Thereafter, an angiography was performed, which showed no leakage of dye or thrombus in any coronary arteries after PCI. Laboratory evaluation of the pericardial fluid demonstrated glucose 367 mg/dL, protein 4.7 mg/dL, and hematocrit 43%, which was almost the same as hematocrit value in the peripheral venous blood. C-reactive protein was 24.5 mg/L with a leukocyte count of 14500/mm³. The workup for rheumatic fever, tuberculosis, and active bacterial infection was negative in the patient. A repeat echocardiography was performed 3 days later, which revealed no pericardial tamponade and the patient was discharged. He was followed-up regularly for the next 2 years without any inadvertent events.

Abciximab is an anti-integrin Fab fragment of a human-murine chimeric monoclonal antibody. It is a glycoprotein IIb/IIIa receptor antagonist, which inhibits platelet aggregation. Abciximab has been extensively studied and administered as an adjunct anti-coagulant therapy in patients with STEMI undergoing PCI.1 An increased risk of bleeding and thrombocytopenia are its major adverse effects.2 Other complications may include pseudoaneurysm, arteriovenous fistula, and retroperitoneal hematoma.3 However, hemorrhagic pericarditis leading to cardiac tamponade, as in our case, remains a rare clinicopathologic entity with only a few case reports in the literature. Furthermore, to our research, this is the first report of hemorrhagic pericarditis secondary to abciximab, which included the pericardial fluid analysis.

A repeat angiography following initial PCI ruled out the possibilities of coronary perforation and free wall rupture. Hence, it is very likely that hemorrhagic pericarditis resulted in cardiac tamponade in the patient. Most of the evidence that supports this development of hemorrhagic pericarditis after abciximab treatment comes from small observational studies.4,5 However, careful monitoring should be prompted whenever abciximab combination therapy is employed in the contemporary clinical practice, particularly in patients with acute coronary syndrome undergoing PCI. This report highlights that hemorrhagic pericarditis leading to an early cardiac tamponade can be a possibility to consider in a patient with STEMI developing hypotensive shock following abciximab administration in an apparently successful percutaneous coronary intervention.

REFERENCES


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