Acute thoracic aortic thrombosis after intra-aortic balloon pumping

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Abstract We present two transesophageal echocardiographic images of a patient with acute myocardial infarction, demonstrating a large thrombus attached to the thoracic aortic wall, considered to be a complication of intra-aortic balloon pumping. The patient had received the device because of hemodynamic instability due to an infarct-related ventricular septal defect. Clinical manifestations which led to the diagnosis of thromboembolism were abdominal pain and deterioration of renal function, without signs of limb ischemia.

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A 65-year-old man with a history of smoking was admitted to a district hospital due to an extended anterior acute myocardial infarction. Twenty-four hours later, his hemodynamic condition deteriorated. A large, infarct-related apical ventricular septal defect was demonstrated by means of echocardiography, and the patient was referred to our hospital for further evaluation and treatment. An intra-aortic balloon pumping device (IABP) was inserted through the right femoral artery in order to stabilize the patient’s hemodynamic status. The patient received adequate doses of intravenous heparin. Coronary artery angiography showed a severe proximal left anterior descending artery stenosis, whereas left ventriculography confirmed the ventricular septal defect and showed left ventricular dysfunction (ejection fraction 25–30%). The patient recovered quickly with IABP support. On the third day of his hospitalization, while awaiting cardiac surgery, he began experiencing light abdominal pain. A slight increase in plasma urea and creatinine levels occurred some hours later. Nevertheless, at this point there were no signs of hemodynamic instability or limb ischemia. Clinical status and renal function deteriorated gradually.

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requiring withdrawal of IABP under the suspicion of thromboembolism. Transesophageal echocardiography was then performed in order to evaluate the descending thoracic aorta. A large thrombus attached to the thoracic aortic wall was demonstrated (Figs. 1 and 2). Despite efforts for surgical treatment, the patient died some hours later in multi-organ failure condition.

Figure 1  Transesophageal echocardiography of the descending thoracic aorta. Short axis view at 0° demonstrating a large thrombus (TH) protruding into the lumen of the aorta.

Figure 2  Transesophageal echocardiography of the descending thoracic aorta. Long axis view at 80°. The illustrated thrombus (TH) seems to be extending 8 cm along the thoracic aortic wall.