

# Visceral arteries thrombosis as a fatal complication of intraaortic balloon malposition

Zakrzepica tętnic trzewnych w wyniku nieprawidłowego położenia kontrapulsacji wewnątrzaoortalnej

Robert Juszkat<sup>1</sup>, Bartłomiej Perek<sup>2</sup>, Andrzej Tykarski<sup>3</sup>, Natalia Majewska<sup>1</sup>, Marek Jemielity<sup>4</sup>

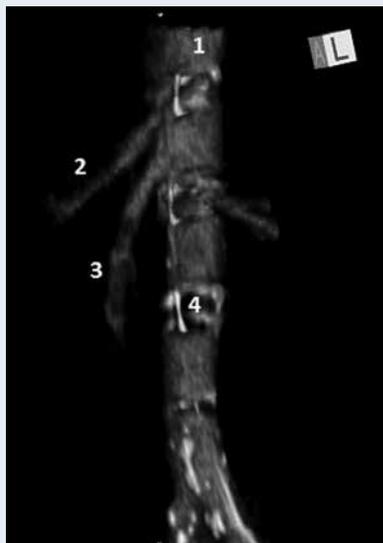
<sup>1</sup>Department of General and Interventional Radiology, Poznan University of Medical Sciences, Poznan, Poland

<sup>2</sup>Department of Cardiac Surgery and Transplantology, Poznan University of Medical Sciences, Poznan, Poland

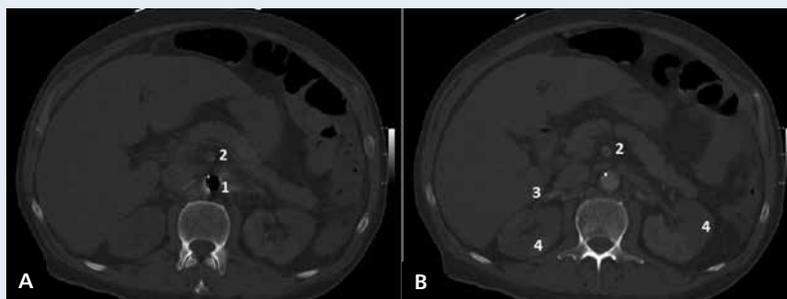
<sup>3</sup>Department of Hypertensiology, Angiology and Internal Medicine, Poznan University of Medical Sciences, Poznan, Poland

<sup>4</sup>Department of Cardiac Surgery and Transplantology, Poznan University of Medical Sciences, Poznan, Poland

The intraaortic balloon pump (IABP), since its first clinical application in the 1960s, has become the most commonly used device for short-term support of a failing heart. Among others, it is applied as an urgent measure of cardiac support to maintain organ perfusion until a transplant is available or a ventricular assist device is placed. We describe herein an unusual case of IABP-related fatal thrombosis of the visceral arteries. A 61-year-old man with a diagnosis of idiopathic dilated cardiomyopathy, and who was waiting for a heart transplant, was admitted to the Cardiac Surgery Department due to progressive heart failure (NYHA functional class IV). On admission, echocardiography revealed dilated left ventricle (with end-diastolic dimension 10.2 cm), severely impaired left ventricular systolic performance (ejection fraction 14%, dp/dt 278 mm Hg/s) and increased right ventricular systolic pressure (to 75 mm Hg). Continuous intravenous infusions of inotropic-positive drugs (dobutamine, milrinon) were immediately initiated. A slight improvement was noted during the first week of intensive medical therapy. Later, his functional status deteriorated progressively. Due to renal failure, continuous veno-venous haemofiltration was employed. Three days later, IABP was introduced percutaneously through the femoral route. A chest X-ray confirmed the correct position of the tip of IABP, below the orifice of the left subclavian artery. Five days later, the patient complained of 1-h abdominal pain. This time it was relieved spontaneously. However, over the following 36 h, a severe deterioration of the clinical status was noted. The patient presented with diffuse abdominal pain and bowel distension. On physical examination, bowel sounds were absent. Progressive metabolic acidosis was noted in the serial laboratory tests. In computer tomography (CT) angiography, a partial loss of opacification in the coeliac trunk and superior mesenteric artery were found (Figs. 1, 2). Moreover, the bowels were distended with many air-fluid levels, and the kidneys revealed the changes typical of pending ischaemia (Fig. 2). IABP tip was located markedly lower than previously. The balloon was repositioned. Due to progressive clinical deterioration, the patient was qualified for emergent surgery. An extensive segment of the infarcted bowel that involved almost all the small bowel and a proximal half of the transverse colon was removed. In spite of the surgical intervention and intensive treatment, 24 h later the patient died of multiorgan failure.



**Figure 1.** Three-dimensional CT reconstruction of the abdominal aorta (1) with thrombosis in coeliac trunk (2) and superior mesenteric artery (3). IABP catheter shaft is seen in the abdominal aorta (4)



**Figure 2. A.** Transverse CT scan of the abdominal aorta with inflated intraaortic balloon (1). Thrombus is seen in the central part of superior mesenteric artery lumen (2); **B.** Transverse CT scan a few centimetres below. Thrombus in superior mesenteric artery is also noted (2). Additionally, thrombi are also visualised in the renal arteries (3) and consequently radiological signs of the renal ischaemia are found (4)

**Address for correspondence:**

Prof. Robert Juszkat, Department of General and Interventional Radiology, Poznan University of Medical Sciences, ul. Długa 1/2, 61-848 Poznań, Poland, e-mail: radiologiamim@wp.pl

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