Aortic dissection caused by intra-aortic balloon pumping

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A 68-year-old man was admitted for acute anterior myocardial infarction complicated by cardiogenic shock. Primary angioplasty of a totally occluded left anterior descending artery was performed and an intra-aortic balloon pump (IABP) was placed using a left femoral approach. Fluoroscopy was not used, and balloon position was checked by portable chest X-rays. The haemodynamic condition worsened rapidly after IABP insertion and transoesophageal echocardiogram was performed, revealing an iatrogenic Stanford type B aortic dissection with the IABP working within the false lumen (Panels A and B, see Supplementary material online, Videos S1 and S2). Diastolic displacement of the flap towards the true lumen was observed in an upper level of the descending thoracic aorta due to IABP function (Panels C, D, E, and F, see Supplementary material online, Videos S3, S4, and S5). The catheter was subsequently removed but the patient died in a few hours from multiorgan failure.

Currently, there is no clear evidence for the use of IABP in cardiogenic shock. In addition, IABP is not free of complications. Iatrogenic aortic dissection is a rare, but potentially lethal complication following IABP insertions. Accordingly, whenever it is recognized, the balloon must be removed immediately. Generally, conservative medical treatment in patients with iatrogenic type B dissection is preferred if no complications such as aneurysm formation and rupture, limb ischaemia or visceral ischaemia occur.

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