Very late dehiscence of a Bentall prosthesis

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A 67-year-old patient presented with hypotension and new-onset chest pain irradiating towards the throat. He had a past history of DeBakey type II aortic dissection treated 20 years earlier by means of a Bentall procedure with insertion of a composite graft consisting of a single-leaflet mechanical valve into a Dacron graft. A few moments after arriving in the emergency room, he suddenly collapsed. Resuscitation was started and, since ECG showed widespread ST elevation, the decision was made to transfer the patient immediately to the cath-lab, while chest compressions were maintained by using a LUCAS Chest Compression System (Jolife, AB, Lund, Sweden). Via the right femoral approach, a right Judkins diagnostic catheter was introduced but, instead of engaging the right coronary artery, it seemed to enter a ‘blind hole’ where the injected dye remained stagnant (Fig. 1, arrow). Subsequently a pig-tail catheter was advanced to perform angiography of the aorta, which showed a dehiscence of the distal anastomosis of the previously implanted Dacron graft, resulting in widespread contrast extravasation into the peri-vascular space (Fig. 2). Because of the haemodynamic instability, urgent surgery did not seem to be an option. Therefore, we envisaged urgent implantation of an endovascular stent to cover the disruption, but unfortunately, while preparing

the necessary interventional material, the patient died on the table.

Surgical repair of proximal aorta pathology by means of a valved conduit was first described by Bentall and De Bono in 1968 and, although several modifications to the original technique have since been made, it remains the standard of care for ascending aortic disease involving the aortic valve, annulus and sinuses of Valsalva. In a large registry of 212 patients undergoing aortic root replacement with a composite graft, overall survival at five years follow-up was 81.5 %, with late morbidity and mortality mainly attributable to thromboembolism or haemorrhage risk [1]. Graft dehiscence at the proximal or distal aortic anastomosis or at the

Fig. 1 During angiography, the right Judkins diagnostic catheter (RJ) entered a ‘blind hole’ (arrow) where the contrast failed to wash out

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Fig. 2 Panel A shows the aortogram which revealed a dehiscence of the distal anastomosis of the Bentall composite graft. Panel B depicts the contours of the mechanical valve, graft (*dotted line*) and aorta (*full line*) and the site of dehiscence

implantation site of the coronary ostia is another dreaded complication with a reported incidence from 0 to 39% and is related to suture line tension, infection, excessive anticoagulation, and underlying disease [2]. Its occurrence can result in formation of a local pseudo-aneurysm when contained by the peri-vascular tissue or in rapid haemodynamic collapse and death in case of free rupture, as demonstrated by our case.

References

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