

PAS-PortW clampless proximal anastomotic device for coronary bypass surgery in porcelain aorta

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Abstract

Objectives: The severely calcified so-called porcelain aorta is one of the most dangerous and challenging findings in patients requiring coronary bypass surgery. Several techniques and technologies have been invented to handle this potentially lethal disease. We report on our initial experience with the PAS-PortW automated proximal clampless anastomotic device (Cardica, Inc., Redwood City, CA, USA), especially focussing on these patients. **Methods:** PAS-PortW anastomoses (for saphenous vein grafts) were performed in 17 patients undergoing coronary artery bypass graft (CABG) surgery. Of these, eight presented with the entity of porcelain aorta. In two patients, the diagnosis was previously known, in six cases heavily calcified aortas prohibiting any clamp manoeuvre were incidentally found intra-operatively. The site of anastomosis was determined by palpation and in individual cases with epi-aortic echocardiography. Other indications for PAS-PortW were localised dissection, acute myocardial infarction and partial sternotomy. Multislice computed tomography (CT) was performed in every patient to evaluate graft and anastomoses patency and appearance. **Results:** All 25 PAS-PortW anastomoses were triggered successfully. Two patients developed neurological deficits (prolonged reversible ischaemic neurological deficits, (PRIND)), with use of cardiopulmonary bypass (CPB) being the major predisposing factor ($p = 0.02$). Graft patency could be affirmed in all grafts by multislice CT in all patients. **Conclusions:** PAS-PortW anastomoses can be performed quickly, easily and, above all, safely in conditions prohibiting aortic clamping. Short-term results are excellent. Clear visualisation of anastomoses using multislice CT is an important advantage of the PAS-PortW device. # 2010 European Association for Cardio-Thoracic Surgery. Published by Elsevier B.V. All rights reserved.