References


eComment: Saphenous graft aneurysms

Author: Karsten Knobloch, Hannover Medical School, Plastic, Hand and Reconstructive Surgery, Hannover, Germany
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I read with great interest the recent report by Dr. Abbasi and coworkers regarding a large saphenous vein graft aneurysm as early as one year after coronary artery bypass grafting (CABG) surgery [1]. Interestingly, the aforementioned case of a saphenous graft aneurysm occurred rather early.

Six years ago we encountered a 79-year-old patient who presented with dyspnea 12 years after previous CABG with a retroaortic mass identified by computer tomography [2]. Besides an aortic ascending aneurysm (5 cm), a 4-cm pseudoaneurysm of a retroaortic venous saphenous graft was identified, which led to the first posterolateral branch. Surgical exclusion, CABG and aorta ascendens replacement were performed. The patient recovered early and remained asymptomatic over 13 months of follow-up. As far as imaging studies are concerned CT-angiography with or without three-dimensional reconstruction appears as a useful diagnostic measure in defining saphenous graft aneurysms [3,4]. Notably, even internal mammary artery graft aneurysms may become evident as reported [5]. A 59-year-old male patient presented with a pulsating mass at the left sternal edge weeks after a CABG procedure. CT showed a false aneurysm of the left internal mammary artery (LIMA), confirmed by angiography. The leakage was treated using a 16-by-3.5-mm Jostent leading to complete lesion thrombosis.

References


eComment: Surgical technique can prevent saphenous vein wall damage during coronary bypass graft surgery

Authors: Nikolaos Barbetakis, Cardiothoracic Surgery Department, Euromedica – Geniki Kliniki, Polissia Ave, Thessaloniki, Greece; Theoharis Xenikakis, Andreas Efstathiou, Ioannis Fessasidis

We read with great interest the article from Abbasi et al. [1] concerning a large saphenous vein graft aneurysm (SVGa) one year after coronary artery bypass grafting (CABG) surgery and we would like to congratulate them for their successful result. Even though reoperative coronary bypass surgery is very frequent today, we do not see a lot of venous aneurysms from previous grafts. However, it has to be highlighted that most lesions of this kind, especially early after surgery, could be originating from injury to the vein during harvesting.

SVGa is defined as a localized dilation of the vessel to 1.5 times the expected normal diameter. These are classified as true and false aneurysms (or pseudoaneurysms): true aneurysms involve all three layers of the vessel wall, whereas false aneurysms involve disruption of one or more layers of the vessel wall with a well-defined collection of blood or hematoma outside the endothelium [2]. Further classification of SVGAs as large or small is not well defined, although dilation to more than 2 cm has generally led to reconsideration for surgical therapy [2].

The initial event in SVGa formation is thought to be atheroma formation followed by plaque rupture, resulting in injury to the vessel wall, which is exacerbated by arterial pressures within the vein graft. Valve insertion points along the vein graft are especially prone to true SVGa formation, where smooth muscle in the media changes from circular to a weaker longitudinal orientation. Other possible contributing factors include variabilities with impaired elastic tissue integrity not detected at the time of harvesting, vascular injury from previous percutaneous intervention (PCI) and surgical trauma [3].

The most important point is the continuing improvement of surgical techniques to prevent vein wall damage during harvesting and implantation and this may contribute to a higher graft patency rate in follow-up. There is evidence that harvesting the saphenous vein together with a pedicle of the endothelium is much better preserved in veins harvested by the so-called ‘no touch’ technique than in veins harvested by the conventional technique [5].

References


