ity to decrease or increase their diameter over-time to match the target vessel. Therefore, arterial grafts do not have stagnation because of diameter mismatch. The length of the anastomosis is also an important factor to determine the patency of the graft because it affects the amount of rotation of the flow.

The long-term patency of the saphenous vein grafts, harvested above and below the knee, is another issue. In the erect position, the venous pressure in the ankle can reach up to 150 mm Hg. Therefore, the veins harvested under the knee are adaptive to more pressure (unlike the veins harvested above the knee), and they are also more adaptive to the arterial flow. This may increase long-term patency. Thus, we believe that this parameter should also be considered.

In our case, 163 (91.06%) of saphenous vein grafts (SVGs) were harvested below the knee. Patent SVGs had a mean diameter of 3.55±0.76 (1.8–6) mm compared to a mean diameter of 2.14±0.52 (1–5) mm for the target coronary artery at 139.78±36.64 months post-coronary artery bypass grafting (CABG). In case of patent grafts, the diameter mismatch is inferior to the one suggested by the reader. Indeed, we found that a target vessel <1.5 mm is a significant risk factor for the occlusion of venous and arterial grafts. We do not exclude the possibility of an increased diameter mismatch in case of occluded SVGs, but this aspect cannot be evaluated using computed tomography angiography. Regarding the length of the graft, we used the ratio between graft length and patient height because we considered it more relevant than absolute graft length. No difference between these ratios were found when comparing patent and occluded grafts for the following configurations: SVG-MO (marginal obtuse artery), SVG-diagonal artery, SVG-PDA (posterior descending artery), and SVG-RCA (right coronary artery).

The above-mentioned results could be biased by an aspect that we were unable to estimate and is still incompletely clarified in the international literature, namely postoperative morphological and histological changes of SVGs.

According to Fitzgibbon et al. (2), approximately 10% of SVGs occlude in the first year after which there is a continued attrition, which accelerates as grafts age. Fan et al. (3) who compared the long-term failure of SVGs with the left internal mammary artery (LIMA) graft, affirm that there is a decrease in lumen size in the entire SVG and anastomosis of different patients in a sequence of ~1, 5, and 10 years postoperatively despite negligible changes in the size of the LIMA. Suzuki et al. (4) evaluated 65 SVGs at 1 year after CABG and found that minimal and mean lumen diameters together with SVGs length significantly decreased. The graft shortening rate was reported to be >5% in 51% of cases and >10% in 35% of cases.

In conclusion, there is a possibility that SVG length and diameter decrease in the long-term due to wall changes and hemodynamic adaptation as well as the presented results do not reflect SVGs parameters during surgery.

We will further investigate the aspects suggested by the reader by reviewing the early postoperative angiograms of the analyzed patients (where available) and comparing the results with those obtained in the current study to assess SVG attrition mechanism and causes.

Reference


Author's Reply

To the Editor,

We thank the reader for his interest in our study (1) on the influence of the morphological and pathophysiological factors upon graft patency. We agree that the diameter of normal saphenous veins is superior to that of normal coronary arteries. At the same time, there are also anatomical variations related to the studied population, harvested segment, and postoperative time interval.

In our case, 163 (91.06%) of saphenous vein grafts (SVGs) were harvested below the knee. Patent SVGs had a mean diameter of 3.55±0.76 (1.8–6) mm compared to a mean diameter of 2.14±0.52 (1–5) mm for the target coronary artery at 139.78±36.64 months post-coronary artery bypass grafting (CABG). In case of patent
Predictive factors for longer length of hospital stay in patients with heart failure

To the Editor,

I have read the article by Kato et al. (1) entitled “Higher diuretic dosing within the first 72 h is predictive of longer length of stay in patients with acute heart failure” which was published in Anatol J Cardiol 2018; 20: 110-6, with great interest. In their study, authors reported that higher diuretic dosing in the first 72 h of hospitalization was an independent predictor of longer length of hospital stay in patients with acute heart failure. In addition, they concluded that there could be important predictors of the length of hospital stay that were not included in their study. Beside this, they reported that laboratory data of patients, including serum sodium level and cardiac troponin values, were recorded on admission and during the first 72 h of hospitalization (1). I would like to emphasize some important points about this well-written study. It has been demonstrated that cardiac troponin is an important marker for the prognosis of acute heart failure. In previous studies, it has been shown that an elevated cardiac troponin level on admission has been associated with increased length of hospital stay (2, 3). Moreover, hyponatremia is a common electrolyte disorder in patients with heart failure. It has been reported that patients admitted with hyponatremia show increased hospital mortality and rates of longer hospital stay (4). Therefore, I wish to ask the authors why they did not mention about serum sodium levels and cardiac troponin values of patients in baseline characteristics and did not use these parameters in the statistical evaluation, although they possessed the data for these parameters.

Further, the presence of edema at admission and the change in weight during hospitalization are major factors influencing the length of hospital stay in patients with heart failure (5). I believe that the aforementioned factors should be considered to verify the predictive value of higher diuretic dosing within the first 72 h on hospital stay in patients with acute heart failure.

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References


