Coronary-subclavian steal syndrome in a hemodialysis patient with ipsilateral subclavian artery occlusion and contralateral vertebral artery stenosis "Case Report"

To the Editor,

I read the article written by Sağ et al. (1) entitled "Coronary-subclavian steal syndrome in a hemodialysis patient with ipsilateral subclavian artery occlusion and contralateral vertebral artery stenosis "Case Report"" published in Anatol J Cardiol 2016; 16: 542-6 with great interest.

It is well known that the use of left internal thoracic artery (LITA) for coronary artery revascularization has been associated with better long-term patency and patient survival than the use of a saphenous venous graft (2). On the other hand, patients with end-stage renal failure (ESRF) are under increased risk of coronary artery disease (3). Unfortunately, patients who need dialysis have been confronted with coronary-subclavian steal syndrome owing to left subclavian artery stenosis or ipsilateral upper extremity arterio-venous fistula (AVF) that gives rise to a low resistance vascular bed (4). Moreover, it is reported that the ipsilateral location of coronary artery bypass with the use of LITA and upper extremity AVF may be associated with an increased risk of cardiac events (5).

In the light of the points mentioned above, would you suggest the three results listed below?

1. In patients with ESRF having upper extremity AVF, ipsilateral LITA should not be used for coronary artery revascularization.
2. Ipsilateral upper extremity should be avoided for AVF if ipsilateral LITA is used for coronary artery revascularization.
3. If there is an obligation regarding the use of ipsilateral LITA, we should use ipsilateral LITA as a free graft rather than in situ.

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References

1. Sağ S, Nas ÖF, Bedir Ö, Baran İ, Güllülü S, Hakyemez B. Coronary-subclavian steal syndrome in a hemodialysis patient with ipsilateral subclavian artery occlusion and contralateral vertebral artery stenosis "Case Report". Anatol J Cardiol 2016; 16: 542-6.
2. Sabic J 3rd, Lytle B, Blackstone E, Houghtailing P, Cosgrove D. Comprasion of saphenous vein and internal thoracic artery graft patency by coronary system. Ann Thorac Surg 2005; 79: 544-51. Crossref
3. Herzog CA, Ma JZ, Collins AJ. Comparative survival of dialysis patients in the United States after coronary angioplasty, coronary artery stenting and coronary artery bypass surgery and impact of diabetes. Circulation 2002; 106: 2207-11. Crossref
4. Minami T, Uranaka Y, Tanaka M, Negishi K, Uchida K, Masuda M. Coronary subclavian steal syndrome detected during coronary bypass surgery in a hemodialysis patient. J Card Surg 2015; 30: 154-6.
5. Feldman L, Tkacheva I, Efrati S, Rabin I, Beberashvili I, Gorelik O, et al. Effect of arteriovenous hemodialysis shunt location on cardiac events in patients having coronary artery bypass graft using an internal thoracic artery. Ther Apher Dial 2014; 18: 450-4. Crossref

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Author`s Reply

To the Editor,

We would like to thank the authors for their constructive comments to our article entitled "Coronary-subclavian steal syndrome in a hemodialysis patient with ipsilateral subclavian artery occlusion and contralateral vertebral artery stenosis "Case Report"" published in Anatol J Cardiol 2016; 16: 545-6 (1).

The use of left internal thoracic artery (ITA) grafts has clinical advantages in ESRD patients with respect to assuring a higher patency rate and avoiding the need to perform proximal aortic anastomosis. The prevalence of significant left subclavian artery and/or ITA stenosis in patients referred for coronary bypass surgery is reported to be 0.2%–6.8% (2). The prevalence in end-stage renal failure (ESRF) and hemodialysis patients appears to be higher because peripheral artery diseases coexist more frequently (3). Therefore, we strongly recommend preoperative evaluation of ITA and the subclavian artery in ESRF patients undergoing coronary artery bypass surgery. When ipsilateral subclavian artery stenosis is seen, stenting of the proximal subclavian artery stenosis may be performed in order to use ipsilateral ITA for grafting. Alternatively, contralateral ITA or free ITA grafts must be utilized. Finally, when possible, the placement an arteriovenous hemodialysis fistula in a patient with a functioning ITA graft would be better performed on the contralateral upper extremity.

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References

1. Sağ S, Nas ÖF, Bedir Ö, Baran İ, Güllülü S, Hakyemez B. Coronary-subclavian steal syndrome in a hemodialysis patient with ipsilateral subclavian artery occlusion and contralateral vertebral artery stenosis "Case Report". Anatol J Cardiol 2016; 16: 545-6.

2. Hwang HY, Kim JH, Lee W, Park JH, Kim KB. Left subclavian artery stenosis in coronary artery bypass: prevalence and revascularization strategies. Ann Thorac Surg 2010; 89: 1146-50. Crossref
3. Minami T, Uranaka Y, Tanaka M, Negishi K, Uchida K, Masuda M. Coronary subclavian steal syndrome detected during coronary bypass surgery in a hemodialysis patient. J Card Surg 2015; 30: 154-6.

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Transcathater aortic valve implantation in transapical access

To the Editor,

We congratulate Doğan et al. (1) on their successful transcathater aortic valve implantation (TAVI) entitled "Transcatheter aortic valve implantation through extra-anatomic iliac graft in a patient with unsuitable iliofemoral and subclavian anatomy." published in Anatol J Cardiol 2016;16:813-4. The authors report that they conducted the procedure through the synthetic graft, which they anastomosed to the left common iliac artery of the patient as the femoral and subclavian access routes were diseased. They explained why they did not conduct the procedure transapically by referring to the studies of Fröhlich et al. (2). It is reported in this study too that transapical TAVI has higher mortality rates than other methods. However, we are of the opinion that for this patient, the TAVI procedure should be conducted transapically rather than through a synthetic graft in spite of the opposite hypothesis of Doğan et al. (1). There is no consensus on the hypothesis that a transapical attempt is more reliable than a transfemoral attempt. A lot of studies indicate that transapical TAVI is at least as reliable as other access routes (3–5). In one of these studies, it is even stated that the transapical approach is better than the transfemoral approach in terms of postoperative paravalvuler leakage (4). In another study, the transapical approach has been found to offer a better manoeuvre ability than the transfemoral approach during prosthesis placement (5).

We are of the opinion that another reason why Doğan et al. (1) preferred the transapical route in this patient can be that the patient had a previous cardiac operation. However, the transapical attempt could have been conducted with a minimum invasive thoracotomy in this case as well. The patient had a general anesthesia while an iliac graft was being transposed. Moreover, even though the authors do not mention it completely, it appears that the patient's TAVI procedure was conducted in two different sessions, with at least one of them being under anesthesia, because picture 2 shared by the authors indicates a healed incision scar on the patient. This means that the patient underwent anesthesia stress twice, whereas this procedure could have been conducted in a single session in a transapical attempt.

However, we are of the opinion that the fact that an access graft for TAVI was ligatured naturally after the operation and left in the body was another handicap for this patient. This is because it is probable that a rudimentary graft in the abdomen could be the cause of infection. We think and believe for all these reasons that even if the conventional transfemoral attempt could not be conducted, the transapical route should have been preferred instead of an iliac arterial graft.

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References

1 Doğan A, Özdemir E, Mansuroğlu D, Sever K, Saltan Y, Özdemir B, et al. Transcatheter aortic valve implantation through extra-anatomic iliac graft in a patient with unsuitable iliofemoral and subclavian anatomy. Anatol J Cardiol 2016; 16: 813-4. Crossref
2. Fröhlich GM, Baxter PD, Malkin CJ, Scott DJ, Moat NE, Hildick-Smith D, et al. Comparative survival after transapical, direct aortic, and subclavian transcatheter aortic valve implantation (data from the UK TAVI registry). Am J Cardiol 2015; 116: 1555-9. Crossref
3. Silaschi M, Treede H, Rastan AJ, Baumbach H, Beyersdorf F, Kappert U, et al. The JUPITER registry: 1-year results of transapical aortic valve implantation using a second-generation transcatheter heart valve in patients with aortic stenosis. Eur J Cardiothorac Surg 2016; 50: 874-81. Crossref
4. Murashita T, Greason KL, Pochettino A, Sandhu GS, Nkomo VT, Bresnahan JF, et al. Clinical Outcomes After Transapical and Transfemoral Transcatheter Aortic Valve Insertion: An Evolving Experience. Ann Thorac Surg 2016; 102: 56-61. Crossref
5. Soon JL, Ye J, Lichtenstein SV, Wood D, Webb JG, Cheung A. Transapical transcatheter aortic valve implantation in the presence of a mitral prosthesis. J Am Coll Cardiol 2011; 58: 715-21. Crossref

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Author`s Reply

To the Editor,

We thank the authors for their interest in our study entitled "Transcatheter aortic valve implantation through extra-anatomic iliac graft in a patient with unsuitable iliofemoral and subclavian anatomy" published in Anatol J Cardiol 2016; 16: 813-4 (1).

Firstly, as the authors stated, we did not choose the transapical approach based on the study of Fröhlich et al. (2). There are also other studies supporting this decision. The transfemoral route seems to be associated with a significantly higher survival than the transapical route (3, 4). However, some studies indicate that the access