

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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Transcatheter aortic valve implantation in transapical access

To the Editor,

We congratulate Doğan et al. (1) on their successful transcatheter 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 paravalvular 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, Kapert 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

route does not influence mortality rates (5). We think that this situation may be related to experiences of the heart team and operators.

Secondly, after graft insertion to the left iliac artery, the patient was transferred to the catheterization laboratory immediately. Therefore, the patient underwent anaesthesia stress once. However, this procedure increases infection risk due to graft operation. The rate of graft infections is expected to be low (6).

In conclusion, we presented an alternative technique for patients with an unsuitable anatomy. Improvements and further trials are needed to compare different routes.

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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. Biancari F, Rosato S, D'Errigo P, Ranucci M, Onorati F, Barbanti M, et al. Immediate and Intermediate Outcome After Transapical Versus Transfemoral Transcatheter Aortic Valve Replacement. *Am J Cardiol* 2016; 117: 245-51. [Crossref](#)
4. Koifman E, Magalhaes M, Kiramijyan S, Escarcega RO, Didier R, Torguson R, et al. Impact of transfemoral versus transapical access on mortality among patients with severe aortic stenosis undergoing transcatheter aortic valve replacement. *Cardiovasc Revasc Med* 2016; 17: 318-21. [Crossref](#)
5. 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](#)
6. Vogel TR, Symons R, Flum DR. The incidence and factors associated with graft infection after aortic aneurysm repair. *J Vasc Surg* 2008; 47: 264-9. [Crossref](#)

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Evaluation of heart rate recovery index in heavy smokers

To the Editor,

I read the article entitled "Evaluation of heart rate recovery index in heavy smokers" by Erat et al. (1), which has been recently published in *Anatolian Journal of Cardiology* 2016; 16: 667-72, with great interest. The authors have successfully mani-

festated a statistically significant relationship between smoking and the heart rate recovery index (HRR) even though the study population was small in number.

HRR, which is indicator of the autonomic nervous system (ANS), is not routinely evaluated in daily clinical practice even though it is an independent risk factor for cardiovascular (CV) diseases. Several studies have shown that HRR plays an important role in all-cause mortality and CV events (2, 3). The authors have done a good job by investigating the relationship between HRR and smoking because the potential harmful effects of smoking on the autonomic nervous system apart from those on the vascular biology needed to be proved. HRR calculation is a simple and beneficial way to evaluate autonomic nervous system function. Therefore, this trial will help us understand the harmful effects of smoking on ANS using HRR.

To our knowledge, HRR is calculated by extracting the heart rate during the 1st, 2nd, 3rd, and 5th minutes after finalizing the test from the patient's maximum heart rate during exercise. However, the authors have described HRR in the "Introduction" section as being calculated by extracting the maximum heart rate from the heart rate in the 1st, 2nd, 3rd, and 5th minutes in the post-exercise period. In case of this type calculation, the study results will change, and it will forward us wrongly. I wonder if it was miswritten or miscalculated in this article. I wanted to emphasize on the importance of right usage of medical formulas.

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References

1. Erat M, Doğan M, Sunman H, Asarcıklı LD, Efe T, Bilgin M, et al. Evaluation of heart rate recovery index in heavy smokers. *Anatol J Cardiol* 2016; 16: 667-72.
2. Vivekananthan DP, Blackstone EH, Pothier CE, Lauer MS. Heart rate recovery after exercise is a predictor of mortality, independent of the angiographic severity of coronary disease. *J Am Coll Cardiol* 2003; 42: 831-8. [Crossref](#)
3. Morshedi-Meibodi A, Larson MG, Levy D, O'Donnell CJ, Vasan RS. Heart rate recovery after treadmill exercise testing and risk of cardiovascular disease events (The Framingham Heart Study). *Am J Cardiol* 2002; 90: 848-52. [Crossref](#)

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Author's Reply

To the Editor,

We thank the author for the great interest in our study entitled "Evaluation of heart rate recovery index in heavy smokers"