**Departments of *Cardiology, and **Cardiovascular Physiology, Institute of Health Sciences, ***Biochemistry, Faculty of Medicine, Namık Kemal University; Tekirdağ-*Turkey***

## References

1. Thacker JS, Yeung DH, Staines WR, Mielke JG. Total protein or high-abundance protein: Which offers the best loading control for Western blotting? Anal Biochem 2016; 496: 76-8.
2. Reinhard FB, Eberhard D, Werner T, Franken H, Childs D, Doce C, et al. Thermal proteome profiling monitors ligand interactions with cellular membrane proteins. Nat Methods 2015; 12: 1129-31.
3. Akyüz A, Aydın F, Alpsoy Ş, Ozkaramanli Gur D, Guzel S. Relationship of serum salusin beta levels with coronary slow flow. Anatol J Cardiol 2019; 22: 177-84.

**Address for Correspondence:** Dr. Aydın Akyüz,
Namık Kemal Üniversitesi Tıp Fakültesi,
Kardiyoloji Anabilim Dalı,
Şehit Gökmen Yavuz Caddesi 2/1 Kat 4 D:11
Tekirdağ-*Türkiye*
Phone: +90 282 261 10 58
E-mail: aakyuz@nku.edu.tr


# Perivascular adipose tissue in cardiovascular diseases

To the Editor,

We congratulate Grigoras et al. (1) on their comprehensive and perceptive review titled "Perivascular adipose tissue in cardiovascular diseases-an update". However, some additional comments may be of interest.

Grigoras et al. (1) report that the perivascular adipose tissue (PVAT) differs in properties depending on its anatomical location. Other authors have also reported similar findings (2). These properties, together with the anatomical structural variations, may eventually facilitate the use of a specific treatment for a specific blood vessel, in addition to the usual general measures. In this context, we also need to consider that blood vessels, at different locations, may have different receptor distributions (3).

An abnormal PVAT is probably associated with abnormal peri-organ and intra-organ fat at other sites, and this may indirectly increase the risk of vascular events (4-6). Grigoras et al. (1) also mention the potential role of various drugs on PVAT. This will be an area of considerable interest for further research (1, 6).

Grigoras et al. (1) discuss a carotid model in the context of PVAT. Indeed, other authors have reported links between the PVAT and internal carotid arteries (ICA) stenosis (7). Furthermore, the pericarotid fat density has been associated with an increased risk of stroke and transient ischemic attack in patients with unilateral ICA stenosis ≥50%–99% (8).

The review by Grigoras et al. (1) made a considerable contribution to the field discussed above.

**Declaration of Interest:** N.K. has given presentations, attended conferences, and participated in trials sponsored by Amgen, Astra Zeneca, Bausch Health, Boehringer Ingelheim, Elpen, MSD, Mylan, Novo Nordisk, Sanofi, and Servier. D.P.M. has given presentations and attended conferences sponsored by Amgen, AstraZeneca, and Libytec.

**Niki Katsiki, Dimitri P. Mikhailidis[1]**
**First Department of Internal Medicine, Division of Endocrinology and Metabolism, Diabetes Center, Medical School, AHEPA University Hospital; Thessaloniki-*Greece***
**[1]Department of Clinical Biochemistry, Royal Free Hospital Campus, University College London Medical School, University College London (UCL); London-*United Kingdom***

## References

1. Grigoras A, Amalinei C, Balan RA, Giusca SE, Caruntu ID. Perivascular adipose tissue in cardiovascular diseases-an update. Anatol J Cardiol 2019; 22: 219-31.
2. Randrianarisoa E, Stefan N, Fritsche A, Reis-Damaschk N, Hieronimus A, Balletshofer B, et al. Periaortic adipose tissue compared with peribrachial adipose tissue mass as markers and possible modulators of cardiometabolic risk. Angiology 2018; 69: 854-60.
3. Alnaeb ME, Thompson CS, Seifalian AM, Hamilton G, Mikhailidis DP. Regional differences in the expression of nitric oxide synthase and specific receptors in the vascular tissues of control and diabetic rabbits: a pilot study. In Vivo 2007; 21: 1069-74.
4. Katsiki N, Athyros VG, Mikhailidis DP. Abnormal Peri-Organ or Intra-organ Fat (APIFat) Deposition: An Underestimated Predictor of Vascular Risk? Curr Vasc Pharmacol 2016; 14: 432-41.
5. Katsiki N, Dimitriadis G, Mikhailidis DP. Perirenal Adiposity and Other Excessive Intra- and Peri-Organ Fat Depots: What Is the Connection? Angiology 2019; 70: 581-3.
6. Katsiki N, Mikhailidis DP. Abnormal Peri-Organ or Intra-Organ Fat Deposition and Vascular Risk. Angiology 2018; 69: 841-2.
7. Haberka M, Skilton M, Biedroń M, Szóstak-Janiak K, Partyka M, Matla M, et al. Obesity, visceral adiposity and carotid atherosclerosis. J Diabetes Complications 2019; 33: 302-6.
8. Baradaran H, Myneni PK, Patel P, Askin G, Gialdini G, Al-Dasuqi K, et al. Association Between Carotid Artery Perivascular Fat Density and Cerebrovascular Ischemic Events. J Am Heart Assoc 2018; 7: e010383.

**Address for Correspondence:** Niki Katsiki, MD,
First Department of Internal Medicine,
Division of Endocrinology and Metabolism,
Diabetes Center, Medical School,
AHEPA University Hospital; 12 Dionyssiou Street,
Ano Poli, PO 546 34,
Thessaloniki-*Greece*
Phone: 0030 2310 212 352
E-mail: nikikatsiki@hotmail.com

*DOI:10.14744/AnatolJCardiol.2019.32480*