Eur J Vasc Endovasc Surg (2015) 49, 613–615

CORRESPONDENCE

Re: 'Galectin-3, Carotid Plaque Vulnerability, and Potential Effects of Statin Therapy'

We read with interest in our vascular department the article by Kadoglou et al.[1] Although it is a novel marker to be studied in the setting of carotid arteries, there are considerable fallacies in the aim, methodology, and the conclusions drawn. We wish to draw attention to only some salient ones in this communication. The introduction with a reference states that "Galectin-3, propagates vascular inflammation by inducing the expression of pro-inflammatory mediators in macrophages and the migration of monocytes into vascular walls". However the conclusion states that "the findings support the hypothesis that galectin-3 is predominantly an anti-inflammatory mediator in advanced carotid plaques".

The primary or secondary aim of the study does not involve the grey-scale median; however, it is extensively used in the results and discussion. There was no mention of an ethical approval to study the plaque. Although the methodology suggests that Pearson's correlation test was done, the results do not reveal them.

The authors attribute their results to the dual function of pro- and anti-inflammatory roles of the study marker supported by one animal study.

Overall, this study although interesting does not have a robust and clear message due to its intrinsic pitfalls. The authors however have been honest, declaring the limitations. This marker does have potential for more research based on the association with carotid plaque.

REFERENCE

1 Kadoglou NP, Sfyroeras GS, Spathis A, Gkekas C, Gastounioti A, Mantas G, et al. Galectin-3, carotid plaque vulnerability, and potential effects of statin therapy. *Eur J Vasc Endovasc Surg* 2015;**49**(1):4–9.

N. Sharma*, S. Rajagopalan
UHNM, Royal Stoke Hospital, Stoke, UK

*Corresponding author. UHNM, Royal Stoke Hospital, Stoke, UK.
Email-address: n-sharma@doctors.org.uk (N. Sharma)

Available online 14 March 2015

http://dx.doi.org/10.1016/j.ejvs.2015.01.024
DOI of original article: http://dx.doi.org/10.1016/j.ejvs.2015.02.010

Re: 'Response to Letter to the Editor on "Galectin-3, Carotid Plaque Vulnerability, and Potential Effects of Statin Therapy"'

We read with interest the letter by Sharma et al. regarding our study "Galectin −3, carotid plaque vulnerability, and potential effects of statin therapy".[1] We strongly disagree with the alleged fallacies of our study, as described by the authors of the letter.

Regarding the biological role of galectin-3 in atherosclerosis, there are conflicting reports in the literature. Galectin-3 has been increasingly recognized as an important modulator of several biological functions, by interacting with several molecules inside and outside the cell, and exerts various and contrasting effects according to its location, type, and site of damage.[2] The contributory role of galectin-3 in both the acceleration and inhibition of atherosclerosis has been described in animal studies.[3,4] Limited data exist regarding the role of galectin-3 in carotid plaque destabilization. Our study was designed to investigate the relationship between galectin-3 and carotid plaque embolization manifested by ipsilateral neurological symptoms. For all the abovementioned reasons we mentioned both theories about the role of galectin-3 in the "Introduction" (the phrase used by the authors of the letter, "galectin-3 propagates vascular inflammation", skews what was actually written: "galectin-3 has been reported to propagate vascular inflammation").

Moreover, as stated in the "Introduction", the primary goal of the study was also "to investigate the relationship between galectin-3 and an ultrasound index of carotid plaque vulnerability", namely the Gray Scale Median (GSM). The GSM is a uniformly accepted index of carotid plaque echogenicity and helps in identifying vulnerable plaques, as explained in the "Methods" section.

Regarding ethical approval, written informed consent from each patient was obtained before enrollment and all procedures were performed according to the principles of the Declaration of Helsinki, and were approved by the hospital's human ethics committee, as clearly stated in the "Methods".

The study, despite some limitations, which are carefully and extensively reported in the "Discussion", is the first to evaluate galectin-3 in human carotid plaques in relation to clinical and ultrasonographic criteria of plaque vulnerability. The findings lean towards the hypothesis that galectin-3 is predominantly an anti-inflammatory mediator in advanced carotid plaques. Regarding the fact that galectin-3 is well validated and that there is expanding use in several cardiological diseases, we agree with Sharma et al. that galectin-3 has the potential to be further researched with regard to the association with carotid plaques.

REFERENCES

1 Sharma N, Rajagopalan S. RE: galectin-3, carotid plaque vulnerability, and potential effects of statin therapy. *Eur J Vasc Endovasc Surg* 2015. ??:??—??

2 Pugliese G, Iacobini C, Pesce CM, Menini S. Galectin-3: an emerging all-out player in metabolic disorders and their complications. *Glycobiology* 2015;**25**:136—50.

3 Iacobini C, Menini S, Ricci C, Scipioni A, Sansoni V, Cordone S, et al. Accelerated lipid-induced atherogenesis in galectin-3-deficient mice: role of lipoxidation via receptor-mediated mechanisms. *Arterioscler Thromb Vasc Biol* 2009;**29**:831—6.

4 MacKinnon AC, Liu X, Hadoke PW, Miller MR, Newby DE, Sethi T. Inhibition of galectin-3 reduces atherosclerosis in apolipoprotein E-deficient mice. *Glycobiology* 2013;**23**:654—63.

N.P. Kadoglou*, G.S. Sfyroeras
Department of Vascular Surgery, Medical School, University of Athens, Athens, Greece

A. Spathis
Department of Cytopathology, "Attikon" University Hospital, Athens, Greece

C. Gkekas
Department of Vascular Surgery, Medical School, University of Athens, Athens, Greece

A. Gastounioti
School of Electrical and Computer Engineering, National Technical University of Athens, Athens, Greece

G. Mantas
Department of Vascular Surgery, Medical School, University of Athens, Athens, Greece

K.S. Nikita
School of Electrical and Computer Engineering, National Technical University of Athens, Athens, Greece

P. Karakitsos
Department of Cytopathology, "Attikon" University Hospital, Athens, Greece

C.D. Liapis
Department of Vascular Surgery, Medical School, University of Athens, Athens, Greece

*Corresponding author.
Email-address: nikoskad@yahoo.com (N.P. Kadoglou)

Available online 14 March 2015

http://dx.doi.org/10.1016/j.ejvs.2015.02.010
DOI of original article: http://dx.doi.org/10.1016/j.ejvs.2015.01.024

Re: 'Protective Effect of Focal Adhesion Kinase against Skeletal Muscle Reperfusion Injury after Acute Limb Ischemia': Exciting Questions about Ischemia Reperfusion Injury

Flück et al. are to be congratulated on their recent study.[1] Ischemia reperfusion (IR) models are very common in experimental studies and currently two different methods are the most frequently used. The first of these is to assess the local injury on the organ where IR is generated, as performed by Flück et al.[1] and the second is to investigate the reperfusion injury in an organ distant from where the IR injury is generated.[1—6] Based on this information, we would like to ask Flück et al. some provocative questions: (1) Which affects the lung tissue more, IR injury following a locally generated ischemia or the systemic effects of IR injury generated in the lower limbs? (2) Which distant organ is most affected by IR injury following locally generated ischemia of the lower limbs? (3) What is responsible for how much of a tissue will be affected by IR injury? Is it the mass volume of the tissue, is it the vascularity, or is it the possession of vital functions like hormonal activity?

We believe that the thoughts of Flück et al. on these questions will shed light on the issues raised.

REFERENCES

1 Flück M, von Allmen RS, Ferrié C, Tevaearai H, Dick F. Protective effect of focal adhesion kinase against skeletal muscle reperfusion injury after acute limb ischemia. *Eur J Vasc Endovasc Surg* 2014 [Epub ahead of print].

2 Karakoyun R, Koksoy C, Yilmaz TU, Altun H, Banli O, Albayrak A, et al. The angiogenic effects of ischemic conditioning in experimental critical limb ischemia. *Eur J Vasc Endovasc Surg* 2014;**47**:172—9.

3 Apilioğullarõ B, Keşli R, Esme H, Yüceaktaş A, Yoldaş B. Pretreatment with carnosol in lung ischemia reperfusion-induced renal injury. *Turk Gogus Kalp Dama* 2014;**22**:816—20.

4 Yürekli I, Gökalp O, Kiray M, Gökalp G, Ergüneş K, Salman E, et al. Effect of pheniramine maleate on reperfusion injury in brain tissue. *Med Sci Monit Basic Res* 2013;**19**:285—90.

5 Berkan O, Göl MK, Icagasioglu S, Cetinkaya O, Yildiz E, Doğan K, et al. Sialic acid is a marker of lung injury following lower extremities ischemia/reperfusion. *Eur J Vasc Endovasc Surg* 2004;**27**:553—8.

6 Gokalp O, Yurekli I, Kiray M, Bagriyanik A, Yetkin U, Yurekli BS, et al. Assessment of protective effects of pheniramine maleate on reperfusion injury in lung after distant organ ischemia: a rat model. *Vasc Endovascular Surg* 2013;**47**:219—24.

G. Gökalp, A. Bal
Izmir Tepecik Education and Research Hospital, Department of Pediatric Emergency, Izmir, Turkey