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Serum Levels of PCSK9 Are Associated with Coronary Angiographic Severity in Patients with Acute Coronary Syndrome (*Diabetes Metab J* 2018;42:207-14)

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Early identification and optimal management of acute coronary syndrome (ACS) are important for improvement of prognosis and reduction of mortality [1]. Easy and non-invasive diagnostic and prognostic methods of ACS may allow physicians to initiate earlier precision strategies to prevent adverse outcome. Several biomarkers including troponin I, N-terminal pro-B type natriuretic peptide, creatinine kinase, and high-sensitivity C-reactive protein are available [2,3].

Proprotein convertase subtilisin/kexin type 9 (PCSK9) reduces the uptake of low density lipoprotein (LDL) cholesterol by increasing the endosomal and lysosomal degradation of LDL receptor, accompanied by an increase in circulating LDL [4,5]. PCSK9 has been considered as a promising target for lipid-lowering therapy [6]. Recently, several studies showed the new role of PCSK9 in the pathogenesis of ACS and suggested a potential parameter for decision-making in ACS [7-9].

In this article entitled "Serum levels of PCSK9 are associated with coronary angiographic severity in patients with acute coronary syndrome," Bae et al. [10] evaluated whether a high level of serum PCSK9 is associated with a high risk and severity of ACS. They showed that serum PCSK9 levels were positively associated with the proportion of patients with coronary angiography lesions after adjustment for multiple variables, suggesting that PCSK9 is a potential biomarker of the severity of coronary artery disease. The authors have clearly showed their results in this manuscript, and this approach is quite valuable and helpful to establish a method for early identification and individual strategies of ACS.

However, these results may not be generalizable to all patients because only male participants were enrolled. I hope for a large multicentre prospective cohort study including both genders, especially considering the menopausal state. I also expect to extend the study to see whether there is an association between the level of PCSK9 and prognosis such as recurrence rate and mortality. Lastly, it would have more valuable if they could compare PCSK9 and other biomarkers of ACS, as the authors mentioned.

CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

REFERENCES

1. Fanaroff AC, Rymer JA, Goldstein SA, Simel DL, Newby LK. Does this patient with chest pain have acute coronary syndrome? The rational clinical examination systematic review. JAMA 2015;314:1955-65.
2. Shah AS, Anand A, Sandoval Y, Lee KK, Smith SW, Adamson PD, Chapman AR, Langdon T, Sandeman D, Vaswani A, Strachan FE, Ferry A, Stirzaker AG, Reid A, Gray AJ, Collinson

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PO, McAllister DA, Apple FS, Newby DE, Mills NL; High-STEACS investigators. High-sensitivity cardiac troponin I at presentation in patients with suspected acute coronary syndrome: a cohort study. Lancet 2015;386:2481-8.
3. Zdravkovic V, Mladenovic V, Colic M, Bankovic D, Lazic Z, Petrovic M, Simic I, Knezevic S, Pantovic S, Djukic A, Zdravkovic N. NT-proBNP for prognostic and diagnostic evaluation in patients with acute coronary syndromes. Kardiol Pol 2013;71:472-9.
4. Seidah NG, Awan Z, Chretien M, Mbikay M. PCSK9: a key modulator of cardiovascular health. Circ Res 2014;114:1022-36.
5. Lambert G, Sjouke B, Choque B, Kastelein JJ, Hovingh GK. The PCSK9 decade. J Lipid Res 2012;53:2515-24.
6. Sahebkar A, Watts GF. New LDL-cholesterol lowering therapies: pharmacology, clinical trials, and relevance to acute coronary syndromes. Clin Ther 2013;35:1082-98.
7. Gencer B, Montecucco F, Nanchen D, Carbone F, Klingenberg R, Vuilleumier N, Aghlmandi S, Heg D, Raber L, Auer Ra, Juni P, Windecker S, Luscher TF, Matter CM, Rodondi N, Mach F. Prognostic value of PCSK9 levels in patients with acute coronary syndromes. Eur Heart J 2016;37:546-53.
8. Robinson JG, Farnier M, Krempf M, Bergeron J, Luc G, Averna M, Stroes ES, Langslet G, Raal FJ, El Shahawy M, Koren MJ, Lepor NE, Lorenzato C, Pordy R, Chaudhari U, Kastelein JJ; ODYSSEY LONG TERM Investigators. Efficacy and safety of alirocumab in reducing lipids and cardiovascular events. N Engl J Med 2015;372:1489-99.
9. Liberale L, Carbone F, Bertolotto M, Bonaventura A, Vecchie A, Mach F, Burger F, Pende A, Spinella G, Pane B, Camici GG, Palombo D, Dallegri F, Montecucco F. Serum PCSK9 levels predict the occurrence of acute coronary syndromes in patients with severe carotid artery stenosis. Int J Cardiol 2018;263:138-41.
10. Bae KH, Kim SW, Choi YK, Seo JB, Kim N, Kim CY, Lee WK, Lee S, Kim JG, Lee IK, Lee JH, Park KG. Serum levels of PCSK9 are associated with coronary angiographic severity in patients with acute coronary syndrome. Diabetes Metab J 2018;42:207-14.