



## Letter to the editor

## Comments on Cui et al.: Establishing age and sex dependent upper reference limits for the plasma lipoprotein (a) in a Chinese health check-up population and according to its relative risk of primary myocardial infarction



Dear Editor-in-Chief,

I read with great interest the article by Cui et al. [1]. The authors proposed Lp (a) < 170 mg/L as a cut-off value for Chinese Han ethnicity. I applauded this great work for its contributing to Lp (a) research in Chinese Han ethnicity.

Though the Lp (a) has been considered as a risk factor for coronary artery disease, there is a lack of consensus in China regarding the significance of Lp (a) in atherosclerotic cardiovascular disease (ASVCD) [2]. Very few studies reported the association of elevated Lp (a) concentrations with atherosclerotic diseases in Chinese Han ethnicity [3]. There is a lack of cut-off values of Lp (a) for Chinese Han ethnicity. Guidelines from ESC/EAS and Canadian Cardiovascular Society have unequivocally recommended an Lp (a) value of 300 or 500 mg/l as cut-off values in Caucasian and an inflection for the risk of myocardial infarction in Caucasians at Lp (a) > 300 mg/l has been recently confirmed by a large meta-analysis [4,5]. However, the Lp (a) cut-off values adopted in Caucasians are not applicable to Chinese Han ethnicity as Lp (a) concentrations are to a large extent genetically determined and differ significantly in different ethnicities and the Lp (a) levels in Chinese Han ethnicity are on average much lower than those in Caucasians [6,7]. The proposal of Lp (a) cut-off value for Chinese Han ethnicity < 170 mg/L by a multivariate regression analysis and according to its relative risk of acute myocardial infarction contributes to the diagnosis, treatment and follow-up of patients with higher Lp (a) levels in Chinese. This study has also hinted that race-specific Lp (a) research is needed and that the borrowing of Lp (a) cut-off out of other ethnicity should be cautioned [8]. However, there exist some obvious limitations we have to attend in this study. The study subjects were healthy check-up population potentially including a selection bias, thus, the Lp (a) cut-off proposed in this paper may be over or under estimated. Another important limitation is that this cut-off value of 170 mg/L has never validated in clinical practice. Prospective

validation of these cutoff values in Chinese Han ethnicity is critically important.

### References

- [1] F.M. Cui, F. Fang, Y.M. He, D.P. Cai, J. He, X.J. Yang, Establishing age and sex dependent upper reference limits for the plasma lipoprotein (a) in a Chinese health check-up population and according to its relative risk of primary myocardial infarction, *Clinica Chimica Acta* 484 (2018) 232–236.
- [2] Joint committee issued Chinese guideline for the management of dyslipidemia in a. [2016 Chinese guideline for the management of dyslipidemia in adults], *Zhonghua xin xue guan bing za zhi* 44 (2016) 833–853.
- [3] A. Cai, L. Li, Y. Zhang, et al., Baseline LDL-C and Lp(a) elevations portend a high risk of coronary revascularization in patients after stent placement, *Dis. Markers* 35 (2013) 857–862.
- [4] C. Emerging Risk Factors, S. Erqou, S. Kaptoge, et al., Lipoprotein(a) concentration and the risk of coronary heart disease, stroke, and nonvascular mortality, *JAMA* 302 (2009) 412–423.
- [5] A.L. Catapano, I. Graham, G. De Backer, et al., ESC/EAS guidelines for the management of dyslipidaemias: the task force for the management of dyslipidaemias of the European Society of Cardiology (ESC) and European Atherosclerosis Society (EAS) developed with the special contribution of the European Association for Cardiovascular Prevention & Rehabilitation (EACPR), *Eur. Heart J.* 2016 (2016).
- [6] D.P. Cai, Y.M. He, X.J. Yang, X. Zhao, H.F. Xu, Lipoprotein (a) is a risk factor for coronary artery disease in Chinese Han ethnic population modified by some traditional risk factors: a cross-sectional study of 3462 cases and 6125 controls, *Clin. Chim. Acta* 451 (2015) 278–286.
- [7] C. Sandholzer, D.M. Hallman, N. Saha, et al., Effects of the apolipoprotein(a) size polymorphism on the lipoprotein(a) concentration in 7 ethnic groups, *Hum. Genet.* 86 (1991) 607–614.
- [8] P.R. Kamstrup, A. Tybjaerg-Hansen, R. Steffensen, B.G. Nordestgaard, Genetically elevated lipoprotein(a) and increased risk of myocardial infarction, *JAMA* 301 (2009) 2331–2339.

Ying Huang

Class of Excellent Candidate Doctors, Grade 2015, Clinical Medicine,  
Medical College of Soochow University, 1002 Moye Road. Gusu District,  
Suzhou, Jiangsu Province, PR China  
E-mail address: [yhuang0@stu.suda.edu.cn](mailto:yhuang0@stu.suda.edu.cn).

<https://doi.org/10.1016/j.cca.2018.12.016>

Received 5 December 2018; Received in revised form 12 December 2018; Accepted 13 December 2018

Available online 14 December 2018

0009-8981/ © 2018 Elsevier B.V. All rights reserved.