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Letter to the Editor

# Trimethylamine N-oxide: A new therapeutic target for atrial fibrillation?

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*Dear Editor,*

We have read with great interest of the recently published article entitled "A potential relationship between gut microbes and atrial fibrillation: Trimethylamine N-oxide, a gut microbe-derived metabolite, facilitates the progression of atrial fibrillation" by Yu et al. [1]. Atrial fibrillation (AF) is a common cardiac arrhythmia, especially in aged population. In Yu's paper, trimethylamine N-oxide (TMAO) was reported to increase the electric remodeling in canine AF models via activating inflammation in ganglionated plexi [1]. Interestingly, circulating TMAO elevation was also found in AF patients [2,3]. These raise the question that whether lowering the blood TMAO level is beneficial for AF patients. TMAO is a common gut microbe's metabolite, the concentration of TMAO in the blood increases after consuming food containing carnitine or lecithin [4]. These indicate that TMAO level can be reduced with diet control. TMAO is also associated with other cardiovascular disease, a recent report shows that TMAO level is associated with the vulnerability of atherosclerotic plaques in coronary artery disease patients [5]. A large number of AF patients also have other cardiovascular disease. Taken together, a diet control to lower blood TMAO may benefit AF patients, especially in those comorbid with other cardiovascular disease.

## Conflict of interest

None.

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