Journal of Thrombosis and Circulation Open Access

Kong and Luo, J Thrombo Cir 2017, 3:3
DOI: 10.4172/2572-9462.1000e109

Editorial Open Access

Is Gut Microbiota Good to Acute Myocardial Infarction

Chunling Kong and Hongxing Luo*

Department of Cardiology, Zhengzhou University People's hospital, Zhengzhou, Henan, China

***Corresponding author:** Hongxing Luo, Department of Cardiology, Zhengzhou University People's hospital, Zhengzhou, Henan, China, Tel: 15290885448; E-mail: 1519782837@qq.com

Received date: August 14, 2017; **Accepted date:** August 17, 2017; **Published date:** August 24, 2017

Citation: Kong C, Luo H (2017) Is Gut Microbiota Good to Acute Myocardial Infarction . J Thrombo Cir 3: e109. doi:10.4172/2572-9462.1000e109

Editorial

The gut is home to hundreds and millions of bacteria that we call intestinal microbiota. They absorb nutrients from the human body and eliminate the metabolites to the body [1]. There may be some balance between gut microbiota and acute myocardial infarction so that we human can keep healthy.

Acute myocardial infarction (MI) refers to acute myocardial ischemic necrosis, a disease characterized on the basis of coronary artery atherosclerosis occurs more sharply reduce coronary blood supply or interrupt, leading to irreversible damage. According to the china cardiovascular disease report in 2016, urban residents with myocardial infarction mortality up to 70 per 100 thousands [2]. Recently, gut microbiota is given more attention on acute myocardial infarction.

Current research mainly focuses on the relation between gut microbiota and acute myocardial infarction. It proves that kinds and number of gut microbiota change with human health condition; some animal experiments indicate that the metabolic product of intestinal microbiota, such as TMAO has been proved to be an independent risk factor for coronary heart disease and we can reduce the mortality of acute myocardial infarction by regulating intestinal microbiota [3]. Some studies have shown that there are significant changes in the structure of intestinal microbiota, the helpful bacteria decreased significantly and harmful bacteria significantly increased, further aggravating the disease for the patient with acute myocardial infarction.

It is believed that the intestinal tract and the bacteria that live in it together form the endocrine organs. Intestinal microbiota affects normal physiological function by converting nutrients into hormone signals. Some intestinal microbial products can be perceived by human receptors and thus affect the progression of cardiovascular disease [4]. The mechanism of intestinal bacteria affecting acute myocardial infarction is still unclear and further study is needed.

However, studies on gut microbiota and acute myocardial infarction are still at animal experimental stage, not yet in clinical practice. We cannot make a conclusion whether gut microbiota is good or bad and the answer is still to be researched.

There was a significant difference on intestinal microbiota between healthy people and patients with acute myocardial infarction. Under normal circumstances, intestinal flora for healthy people relatively fixed, but when people are in acute myocardial infarction (MI), intestinal barrier function is impaired by a lack of heart pump function and intestinal perfusion inadequacy. Such as intestinal flora disorder, the intestinal mucosa and intestinal microbiota disorder further aggravates intestinal function damage, leading to bacterial endotoxin hematic disease, systemic inflammatory response and multiple organ failure, further damage to heart muscle cells. Therefore, intestinal flora structure is essential for the prognosis of acute myocardial infarction.

The causal relationship between intestinal flora and acute myocardial infarction is not yet determined; but the disorder of intestinal flora structure aggravated acute myocardial infarction and poor prognosis; maintaining the structure of intestinal flora may reduce the incidence of acute myocardial infarction, which is desirable and promising. More studies need to be done.

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