**Can Wine Solve the Heart Disease Epidemic?**

It is common knowledge that heart disease is among the leading causes of death around the world. Heart disease can present itself in a variety of ways, one of these being atherosclerosis. Simply put, atherosclerosis is the hardening of arteries due to plaque build up. When forces such as cigarette smoking or diabetes damage arteries, the body sends in white blood cells to clean up the mess. If the body is left to clean up the damaged arteries for a prolonged period of time, it reduces to using plaque to try and stop the cholesterol build up within the blood. Thus resulting in plaque build up and ultimately heart disease. With heart diseases, such as atherosclerosis, being such a common problem researchers are constantly working to find a way to prevent it. A group in China recently published an article on their discovery that could change the way pharmaceutical companies and physicians look at heart disease prevention.

Chen and colleagues (2016) noticed that recent research had linked plasma trimethylamine-N-oxide (TMAO) as a plausible risk factor for atherosclerosis. TMAO is simply a result of metabolic activity. This study also noted that a substance known as TMA is necessary in the formation of TMAO. TMA is usually produced via the natural bacteria found in the human gut. Chen et al. (2016) linked this previous study to research stating that a natural compound found in berries and red wine, called resveratrol (RSV), has the ability to not only limit TMAO production but also to minimize the production of TMA. By combining the research previously published in the two articles, they hypothesized that resveratrol can reduce the atherosclerosis causing TMAO by regulating TMA by altering the bacteria found in the gut.

They tested their hypothesis using mice with induced atherosclerosis. Through a series of procedures they were able to note the bacteria present in the intestinal tract of the mice as well as the TMAO and TSA levels found in their blood. Some of the mice were fed resveratrol while others were not. This allowed the researchers to note the difference the resveratrol had on the bacteria and blood in the mice. In the end they were able to note that high TSA levels corresponded with high concentrations of TMSO, verifying the initial study. Additionally, Chen and colleagues (2016) observed that the mice that were fed resveratrol showed significantly reduced levels of TMSO and TSA as well as a different variety of gut bacteria than the comparative mice.

 This study presents information that is crucial to the evolution of heart disease treatment. Chen et al. (2016) found that changing the bacteria found in the gut of research mice can reduce TMAO, a key risk factor for atherosclerosis heart disease. Their research showed that a compound such as the resveratrol found in red wine is capable of such a feat. Of course human studies are necessary before any confident parallels can be made but ultimately, this study suggests that heart disease prevention can be as simple as red wine.

References

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