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In gut we trust – assessment of circulating TMAO levels in young and old CAD patients

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Trimethylamine N-oxide (TMAO) is a molecule generated from choline, betaine, and carnitine containing compounds from the diet in the gut by gut microbiota. Recent clinical studies have shown a positive correlation between elevated plasma levels of TMAO and an increased risk for major adverse cardiovascular events. We assessed the TMAO levels in 48 coronary artery disease patients and 48 controls. The blood was drawn in fasting level. TMAO level among the young coronary artery disease (CAD) patients had a mean of 28.34091+18.39021 µm and mean value among old coronary artery disease was 19.33913+5.675 µm when compared to the level of 5.2+4.78 µm and 6.9+2.46 µm in young and old normal people without coronary artery disease respectively. The plasma level of TMAO is determined by several factors including age, diet, gut microbial flora, drug administration and liver flavin monooxygenase activity. We have found higher levels in younger CAD patients which maybe attributable to the consumption of meat. It remains to be seen whether modification of dietary pattern and alteration of gut flora bring down the levels of TMAO. A study inclusive of dietary pattern and gut flora will throw light on the role of TMAO in this part of the world.