

Editorial Note on Studies of Aerobic Capacity and Role of High ORAC Value in CAD Patients

Mehran Roxana*

Division of Cardiology, Mount Sinai University, USA

Editorial

Coronary artery disease (CAD) is a growing epidemic across the globe. There is ever-evolving research to decode aetiology, diagnosis, treatment and management of CAD [1]. Cardiovascular diseases especially the coronary artery disease is the leading cause of mortality and morbidity in India with the prevalence rate increasing by the year. It is a progressive disease characterised by the accumulation of lipids, inflammation and plaque formation. The risk factors include smoking, diabetes mellitus, hypertension, obesity and high cholesterol [2]. Co-morbidities like diabetes and hypertension play an important role in plaque progression. The disease progression and risk of cardiovascular events is higher in T2DM patients. Impaired glycemic control further leads to increased incidence of plaque formation in diabetic patients. High-intensity lipid-lowering drug said plaque reduction though with exceptions due to several residual risk factors [3].

However, regression of atherosclerosis can be achieved through lifestyle as well as dietary changes. Low carbohydrate and antioxidant-rich diet help in the reversal of plaque formation. Obesity is one of the known risk factors of cardiovascular diseases [4]. The metabolic burden on the body and increase in body weight is directly proportional to each other. Increase in body weight leads to increased storage of fat and carbohydrates. Low HDL levels and accumulation of triglycerides are key features of diabetic dyslipidemia which leads to poor vascular function as well as poor glycemic control [5]. Similarly, excess of reactive oxygen species leads to vascular injury further leading to oxidative stress which plays an important role in the progression of atherosclerosis. Antioxidants help maintain a favourable balance, thus preventing unwanted consequences the consumption of the reverse diet kit leads to a negative calorie balance which makes the body use the stored glycogen in the adipose tissues [6]. This further prevents the partial digestion and thus oxidative stress leading to stabilization of plaque formation as observed in the current case study. Similarly, the high Oxidative Radical Absorption Capacity (ORAC) units in the reverse diet kit aid in the cessation of atherosclerotic plaque progression. The antioxidant and anti-inflammatory action of the diet helped the reverse cholesterol transport and helped to the reduction of the plaque volume from its baseline.

The CAD management approach, medication and treatment administration that has stood the test of time is the one mentioned in ancient Indian scriptures under the umbrella term Ayurveda. The current study was designed with an aim to define efficacy or evidence of an Ayurveda based therapy in the management of CAD with a 36 month follow up. The Ayurveda therapy is known as Sampurna Hrudaya Shudhikaran (SHS) [7] (Combination of Panchakarma and medicinal herb decoctions). An Observational data from various registries, numerous clinical trials and meta-analysis have been done to identify the patient sub-group that might have a

long-term survival benefit with or without current treatment modalities namely PCI/CABG or both. Additionally, the time of treatment administration, majorly an early PCI is studied in detail to offer the best of care to patients with CAD. But often with varying limitations and mixed patient population the results are not comparable and hence no one answer can be derived from the plethora of literature that is being produced around this topic [8-10].

Rohit S et al. in "Impact of Change in Maximum Aerobic Capacity in Patients with Coronary Artery Disease: 36 Months Follow up" stated that they therefore, set out to offer an additional solution of an optional add on therapy that holistically helps patient treatment. But this pilot study has its limitation such as the number of sample size, single ethnic group and follow-up of 36 months only. However, through this study, we are trying to document the evidence of complementary medicine and thereby re-introduce traditional therapy that might have promise in the long run.

References

1. Prabhakaran, Dorairaj, Panniyammakal Jeemon, and Ambuj Roy. "Cardiovascular diseases in India: Current epidemiology and future directions." *Circulation* 133 (2016): 1605-1620.
2. Gupta, Rajeev, Indu Mohan, and Jagat Narula. "Trends in coronary heart disease epidemiology in India." *Ann Glob Health* 82 (2016): 307-315.
3. Bauersachs, Rupert, Uwe Zeymer, Jean-Baptiste Briere, and Caroline Marre, et al. "Burden of coronary artery disease and peripheral artery disease: A Literature Review." *Cardiovasc Ther* 2019 (2019).
4. Daida, Hiroyuki, Tadateru Takayama, Takafumi Hiro, and Masakazu Yamagishi, et al. "High HbA1c levels correlate with reduced plaque regression during statin treatment in patients with stable coronary artery disease: Results of the coronary atherosclerosis study measuring effects of rosuvastatin using intravascular ultrasound in Japanese subjects (COSMOS)." *Cardiovasc Diabetol* 11 (2012): 87.
5. Stegman, Brian, Rishi Puri, Leslie Cho, and Mingyuan Shao, et al. "High-intensity statin therapy alters the natural history of diabetic coronary atherosclerosis: Insights from SATURN." *Diabetes Care* 37 (2014): 3114-3120.
6. Kovarnik, Tomas, Zhi Chen, Gary S. Mintz, and Andreas Wahle, et al. "Plaque volume and plaque risk profile in diabetic vs. non-diabetic patients undergoing lipid-lowering therapy: A study based on 3D intravascular ultrasound and virtual histology." *Cardiovasc Diabetol* 16 (2017): 156.
7. Boden, William E., Robert A. O'Rourke, Koon K. Teo, and Pamela M. Hartigan, et al. "Optimal medical therapy with or without PCI for stable coronary disease." *N Engl J Med* 356 (2007): 1503-1516.

*Address for Correspondence: Mehran Roxana, Division of Cardiology, Mount Sinai University, USA, Tel: + 2126599691; E-mail: roxana.mehan@mountsinai.org

Received: 30 July, 2020; Accepted: 31 July, 2020; Published: 07 August, 2020

Copyright: © 2020 Roxana M. This is an open-access article distributed under the terms of the creative commons attribution license, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

8. Phillips, Lawrence M., Rory Hachamovitch, Daniel S. Berman, and Ami E. Iskandrian, et al. "Lessons learned from MPI and physiologic testing in randomized trials of stable ischemic heart disease: COURAGE, BARI 2D, FAME, and ISCHEMIA." *J Nucl Cardiol* 20 (2013): 969-975.
9. Sane, Rohit, and Milind Hanchate. "Effect of the Sampurna Hriday Shuddhikaran (SHS) model in heart failure patients in India: A prospective study." *J Adv Med Med Res* (2014): 564-571.
10. Habib, Robert H., Kamellia R. Dimitrova, Sanaa A. Badour, and Maroun B. Yamine, et al. "CABG versus PCI: Greater benefit in long-term outcomes with multiple arterial bypass grafting." *J Am Coll Cardiol* 66 (2015): 1417-1427.

How to cite this article: Mehran Roxana. "Editorial Note on Studies of Aerobic Capacity and Role of High ORAC Value in CAD Patients ". *J Cardiovasc Dis Diagn* 8 (2020) doi: 10.37421/jcdd.2020.8.414