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Plasma cyclophilin A: An emerging biomarker of coronary artery disease

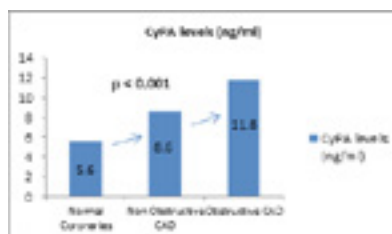
Ajeya N Ukadgaonkar and Dr. Prasad Shah
Poona Hospital and Research Centre, Pune, India.

Background : Cyclophilin A (CyPA) is a protein released from vascular smooth muscle cells in response to reactive oxygen species and serves as a marker of oxidative stress and inflammation, which play an important role in atherosclerosis. We tested the correlation of plasma CyPA levels with coronary artery disease (CAD) and its risk factors.

Methods and Results : Plasma CyPA levels were tested in 205 consecutive patients undergoing coronary angiography (CAG) by immunoassay based sandwich technique and were correlated with CAG results and traditional risk factors for CAD. The data was analyzed using Kruskal Wallis and Mann-Whitney U tests. We observed that the median CyPA levels were significantly higher in patients with obstructive CAD (11.8 ng/ml with inter quartile range (IQR) of 9.9 - 16 ng/ml), as compared to non obstructive CAD (8.6 ng/ml with IQR of 7.55 - 9.65 ng/ml) and normal coronaries (5.6 ng/ml with IQR of 4.5 - 6.9 ng/ml) with p value <0.001. The median CyPA levels were significantly higher in patients with diabetes mellitus (11.5 ng/ml in diabetic versus 9 ng/ml in non diabetic patients, p<0.001), males (10 ng/ml in males versus 7.9 ng/ml in females, p<0.001), smokers (10.6 ng/ml in smokers versus 9.2 ng/ml in non smokers, p=0.008) and post menopausal state (8.8 ng/ml in post menopausal women versus 5.2 ng/ml in pre menopausal women, p=0.005). Statistically significant difference was not found in median CyPA levels with other risk factors such as age, hypertension, dyslipidemia and family history.

Conclusion : CyPA is a strong predictor and emerging biomarker of CAD and an easy, reproducible tool to screen the patients with CAD or suspected CAD.

Keywords : Coronary artery disease, Coronary Angiography, Cyclophilin A, Risk factors.



Biography

Ajeya N Ukadgaonkar is pursuing a superspeciality course (DNB) in Cardiology in Poona Hospital and Research Centre, India. He has completed his MD in Internal Medicine and has worked as an Assistant Professor in Internal Medicine. He has 2 publications in international and 1 publication in a national journal to his name. He bears a special interest in the field of research

ajeya12@gmail.com

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