Review Article

Lipid Management in Indian Scenario

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Dyslipidemia has been established as the most important modifiable risk factor for atherosclerotic cardiovascular disease (ASCVD). In the INTERHEART Study published in 2004, of the nine modifiable risk factors found to contribute to 90.4% of all heart attacks[1].

This is highly significant as this emphasized the role of HDL cholesterol as represented by Apo A1 besides more commonly established role of LDL cholesterol as represented by Apo B. This is particularly relevant for India as it has been found that in India dyslipidemia is more often characterized by high triglyceride (TG) and low HDL cholesterol than by high LDL cholesterol. In the India Heart Watch Study of 6123 people, it was found that among Indian men TG more than 150 mg/dl in 41.2%, HDL below 40 mg/dl in 34.1% and LDL above 130 mg/dl in 16.3% of population. The corresponding values for women were 31.5%, 53.1% (HDL below 50 mg/dl) and 15.1% respectively[2].

Overall, in urban India the prevalence of dyslipidemia is 25-30% whereas that in rural India is 15-20%[3]. In the Jaipur Heart Watch Study, it was found that over last two decades, the hypercholesterolemia prevalence remained relatively unchanged at 25% whereas that of hypertriglyceridemia increased from 25% to 33%.

In people with established ASCVD in India, the mortality varies directly in proportion to blood cholesterol level. With value below 200 mg/dl, the mortalities in terms of per 1000 person years in below 50 years age group is 5.4, in 50 to 59 years 23.8 and above 60 years 76.9. The respective values become 19.8, 38.5 and 12.6 when blood cholesterol level is 200 to 239 mg/dl and the corresponding values become 17.4, 39.8 and 108.2 for blood cholesterol level above 240 mg/dl.

A disturbing trend in India is the high prevalence of coronary heart disease (CHD) in younger population. In India it has been recommended to screen for ASCVD to all at age of 20 years or college entry[4]. As pharmacological intervention for elevating HDL to improve clinical outcome has so far been met with frustration and lowering of TG causes debatable clinical benefits, the focus remains to reduce LDL. In very high risk population with known ASCVD or with diabetic people with end organ damage or multiple additional risk factors and in familial homozygous hypercholesterolemia, the target for LDL is below 50 mg/dl. In high risk people as characterized by 3 or more ASCVD risk factors, diabetes, familial heterozygous hypercholesterolemia, advanced chronic kidney disease, LDL above 190 mg/dl, coronary artery calcium score (CAC) above 300 A, carotid plaque or Lp(a) above 50 mg/dl, the target LDL is 70 mg/dl. In moderate risk people with 2 ASCVD risk factors, CAC 100 to 299 A, increased carotid intima media thickness, Lp(a) 20 to 49 mg/dl or metabolic syndrome, the target is 100 mg/dl.

In Indian set up, particularly in the public health care system, it is prudent to screen for lipids in nonfasting state as most patients attend hospital clinics in fed state, especially with the fact that only TG varies with prandial condition in any significant way.

A moderate to high intensity statin is required to reduce LDL by a meaningful amount in majority of the patients. If the highest tolerable dose of statin does not reduce the LDL to the target level, ezetimibe should be added and tried for at least 6 weeks before deciding whether evolocumab is required to achieve the target LDL. As the benefits of evolocumab appear late, the patients must be primed to take the injections for long term before initiating. The cost burden must fully be explained to the patients. In younger people with recurrent acute coronary syndromes, LDL should be brought down more aggressively and more quickly.

Fenofibrate is the drug of choice if initial TG is above 500 mg/dl. Otherwise, TG should be reassessed after correction of LDL and excluding hyperglycemia, hypothyroidism, nephrotic syndrome and effects of drugs and alcohol. If TG is still above 150 mg/dl, then addition of fibrate to statin is considered. Saroglitazar significantly reduces TG levels, but lacks data from RCTs in industrialized countries[5].

In conclusion, as Indians are prone to premature ASCVD, early aggressive detection and treatment of risk factors, with special focus on dyslipidemia, is urgently needed.

Conflict of Interest : None

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