



COMMENTARY

Deciphering the Puzzle of Lipid Disorders: Perspectives from Internal Medicine

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DESCRIPTION

Lipid disorders represent a diverse spectrum of conditions characterized by abnormalities in lipid metabolism, including dyslipidaemia, hypercholesterolemia, and hypertriglyceridemia. These disorders pose a significant risk factor for cardiovascular disease, necessitating comprehensive evaluation, management, and preventive strategies. This commentary delves into the intricacies of lipid disorders within the realm of internal medicine, exploring their epidemiology, pathophysiology, clinical implications, and contemporary management approaches. Lipid disorders encompass a wide range of abnormalities in lipid metabolism, spanning elevated levels of total cholesterol, Low-Density Lipoprotein Cholesterol (LDL-C), triglycerides, and decreased levels of High-Density Lipoprotein Cholesterol (HDL-C). As a major modifiable risk factor for Atherosclerotic Cardio Vascular Disease (ASCVD), lipid disorders demand meticulous attention from internal medicine practitioners. This commentary aims to unravel the complexities of lipid disorders, shedding light on their epidemiology, pathophysiology, clinical significance, and evolving management paradigms. Lipid disorders represent a global health concern, affecting millions of individuals worldwide and contributing to the burden of ASCVD. Epidemiological studies have highlighted the strong association between dyslipidaemia and cardiovascular risk, emphasizing the importance of early detection and intervention. Despite advances in treatment, lipid disorders remain underdiagnosed and undertreated, underscoring the need for improved screening strategies, risk assessment tools, and targeted interventions to mitigate cardiovascular risk. Lipid metabolism is a highly regulated process involving intricate interplay between dietary intake, endogenous synthesis, and clearance mechanisms. Dysregulation of lipid metabolism can arise from genetic factors, dietary habits, sedentary lifestyle, and underlying medical conditions, leading to disturbances in lipid profiles and increased cardiovascular risk. The pathophysiology of lipid disorders involves abnormalities in lipoprotein metabolism, hepatic lipid synthesis, and peripheral tissue uptake, contributing to

the accumulation of atherogenic lipids and the development of ASCVD. Lipid disorders may manifest with a spectrum of clinical presentations, ranging from asymptomatic dyslipidaemia to acute coronary syndromes, peripheral artery disease, and ischemic stroke. Chronic exposure to elevated levels of LDL-C and triglycerides promotes atherosclerotic plaque formation, endothelial dysfunction, and thrombotic events, predisposing individuals to myocardial infarction, stroke, and cardiovascular death. Additionally, lipid disorders confer an increased risk of non-cardiovascular complications, including pancreatitis, fatty liver disease, and metabolic syndrome. Accurate diagnosis and risk stratification are paramount in the management of lipid disorders. Internal medicine practitioners employ a combination of clinical assessments, laboratory tests, and cardiovascular risk scores to evaluate lipid profiles, assess cardiovascular risk, and guide treatment decisions. Key lipid parameters include total cholesterol, LDL-C, HDL-C, and triglyceride levels, which are integrated with other risk factors to calculate atherosclerotic cardiovascular risk scores, such as the Framingham Risk Score or the ASCVD Risk Estimator. Lifestyle modifications serve as the cornerstone of lipid disorder management, encompassing dietary changes, regular exercise, smoking cessation, and weight management. Internal medicine clinicians play a pivotal role in counselling patients on adopting healthy behaviours and implementing sustainable lifestyle modifications. Pharmacological interventions, including statins, ezetimibe, PCSK9 inhibitors, fibrates, and omega-3 fatty acids, are employed judiciously based on individual patient characteristics, lipid profile, cardiovascular risk, and treatment goals. The landscape of lipid disorder management continues to evolve, with emerging therapeutic approaches offering promising avenues for improved outcomes.

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CONFLICT OF INTEREST

Author declares that there are no conflicts of interest.