AIM-LO: Overview of 2021 CCS Dyslipidemia Guidelines for Secondary Prevention
Presented by Dr. Glen J. Pearson

Introduction

Hi, I'm Glen Pearson, Co-Chair and lead author of the 2021 CCS Dyslipidemia Guidelines. In this video, I am going to give a quick tour of the Canadian guidelines for the management of dyslipidemia for secondary prevention of cardiovascular disease in adults.

Decision tree for treatment intensification in the 2021 CCS Dyslipidemia Guidelines

Specifically, I'm going to focus on Figure 2 of the guidelines, which represent a decision tree for treatment intensification. Unlike the previous 2016 guidelines which did not emphasize an LDL-cholesterol threshold for treatment intensification, the 2021 guidelines recommend a threshold of 1.8 mmol/L or higher for intensification of lipid therapy in secondary prevention.
This is based on the large body of evidence indicating a causal relationship between LDL-cholesterol levels and Atherosclerotic Cardiovascular Disease (ASCVD), and consistent observations that lower concentrations of LDL-cholesterol are associated with lower risk of ASCVD events.

This relationship holds true down to very low LDL-cholesterol levels of less than 0.5 mmol/L. Achieving such low LDL-cholesterol levels has been shown to be safe, with no evidence to suggest any cardiovascular or other concerning safety risks. For these reasons, guidelines in Canada and elsewhere recommend a more aggressive approach to reducing LDL-C.
Several observational studies support the concept that lower LDL-cholesterol is better. Indeed, studies have consistently shown that improved ASCVD outcomes are achieved in secondary prevention patients reaching lower LDL-cholesterol levels.

Most of the recent large randomized controlled trials used 1.8 mmol/L as the threshold for intensification of lipid-lowering therapy with non-statin drugs in secondary ASCVD patients who were receiving maximally tolerated doses of statins.

Which patients benefit the most from treatment intensification?

Secondary analyses of the large PCSK9 inhibitor trials identified subsets of high-risk patients with established CVD who derived the largest absolute benefit with intensification of lipid-lowering therapy with either evolocumab or alirocumab (Table 3 in guidelines) thus intensification of non-statin therapy is especially recommended in high-risk patients.

The 2021 guidelines therefore recommend intensification of lipid-lowering therapy with PCSK9 inhibition with or without ezetimibe for secondary prevention patients whose LDL-cholesterol remains 1.8 mmol/L or higher despite receiving maximally tolerated statin therapy.