Lipid therapy: A new whiteboard video for patient education

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Dyslipidemia is a major risk factor for the development of cardiovascular disease (CVD). In Canada, heart disease and cerebrovascular diseases are the second and third highest causes of death, respectively, accounting for over 65,000 deaths in 2018.[1]

Statins (3-hydroxy-3-methylglutaryl-coenzyme A reductase inhibitors) are considered to be the cornerstone of dyslipidemia management and cardiovascular (CV) risk reduction, as they have the most robust evidence for benefit among lipid-lowering pharmacologic agents. Meta-analyses have demonstrated that the reduction of low-density lipoprotein (LDL) cholesterol using a statin substantially reduces the annual risk of major vascular events (major coronary events, strokes or the need for coronary revascularization) and vascular mortality by about 20% to 25% for each 1 mmol/L reduction in LDL cholesterol achieved.[2,3] These results have been consistent in both men and women at an equivalent risk of CV disease,[4] patients with diabetes[5] and older people.[6] Consequently, the current Canadian Cardiovascular Society (CCS) dyslipidemia guidelines[7] recommend the initiation of statin therapy to achieve target lipid levels in

- all patients with a statin-indicated condition: clinical atherosclerosis, abdominal aortic aneurysm (AAA) and most patients with diabetes (age >40 years, age >30 years and diabetes for >15 years or presence of microvascular disease);
- high-risk primary prevention patients (defined as a Framingham Risk Score [FRS] 10-year risk ≥20%);
- intermediate-risk primary prevention patients (FRS 10%-19.9%) with LDL cholesterol ≥3.5 mmol/L, non–high-density lipoprotein [HDL] ≥4.3 mmol/L, apolipoprotein B [apoB] ≥1.2 g/L; or
- men age ≥50 or women ≥60 years plus 1 additional risk factor (low HDL, impaired fasting glucose, increased waist circumference, cigarette smoker or hypertension).

New evidence over the past few years provides clarity on the role of nonstatin pharmacologic agents in the management of dyslipidemia and reduction of CV risk. In general, it is recommended that the nonstatin lipid-lowering agents be added to statin therapy or used in statin-intolerant individuals. Guidelines suggest the addition of ezetimibe (an agent that targets the Niemann-Pick C1–like 1 [NPC1L1] protein, leading to reduced absorption of cholesterol from the intestine) to maximum tolerated statin, as second-line therapy in patients with clinical atherosclerosis who have not reached their lipid target.[7] This recommendation is derived from the IMPROVE-IT trial, in which the addition of ezetimibe to moderate-intensity statin therapy was associated with a reduction in CV mortality, major CV events or nonfatal stroke when compared to statin therapy alone in patients with recent acute coronary syndrome (ACS).[8] The newest group of currently available agents, the proprotein convertase subtilisin/kexin 9 (PCSK9) inhibitors, are injectable agents that increase the availability of hepatic LDL receptors, resulting in significant reductions in serum LDL cholesterol. The addition of a PCSK9 inhibitor in secondary prevention patients who have not reached their lipid target despite maximum-tolerated statin ± ezetimibe, or as monotherapy, has been shown to safely reduce major adverse cardiovascular events (MACEs) by 17% (number needed to treat [NNT] = 50) but does not clearly reduce mortality.[9] While the use of PCSK9

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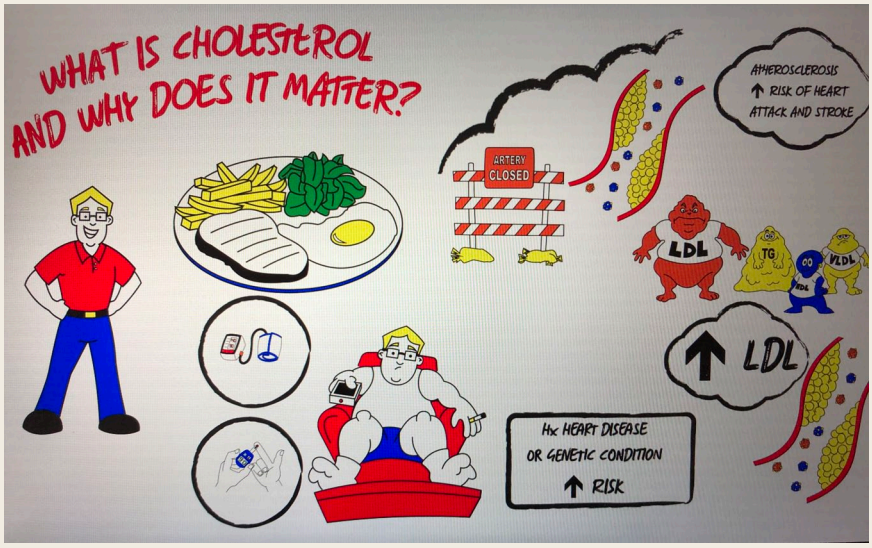
FIGURE 1 Still from Lipid Therapy Whiteboard



inhibitors is recommended in the guidelines,[7] overall utilization remains limited due to their costs and the restricted coverage by third-party insurance providers. Based on this evidence, it is important for pharmacists to be aware of the role that these agents play in the management of patients with dyslipidemia.

In Canada, an estimated 19,500 cardiovascular events each year could be prevented by closing the treatment gap in statin use.[10] Poor adherence to statin therapy, due to perceived inflated risk of developing adverse effects, lack of knowledge about hyperlipidemia and its treatment as well as polypharmacy[11,12] is associated with a significantly increased risk of cardiovascular events and mortality. Patient adherence to guideline-recommended statin therapy is far from optimal; LDL cholesterol targets are not achieved in up to 80% of high-risk patients[13] in part because only about half of the patients who receive a prescription for a lipid-lowering drug continue to take the medication 6 months later.[14] This proportion falls to ~40% after 12 months[15] and to ~15% to 30% after 5 years.[16] Poor patient adherence suggests a strong need for improved patient education regarding lipid-lowering therapy.

Pharmacists should screen and engage in CVD risk assessment with patients and involve them in a shared decision-making process to optimize their CV risk reduction.[17] This may improve adherence to lipid-lowering therapy long term. While the decision to initiate and continue drug therapy to reduce CV risk ultimately belongs to the patient, pharmacists should ensure that patients are fully informed about their decisions.[17] In addition, pharmacists should attempt to educate patients regarding any potential misconceptions and misinformation about CV risk and the available therapies.[17] Patients are empowered to take responsibility for their treatment and health when equipped with better understanding of the benefits of medication therapy and management of potential adverse effects.

Recent studies confirm that the Internet has become a powerful tool in educating patients and improving their decision-making regarding health care and medication.[18-20] Science and Economic Development Canada reports that 90% of Canadians will have access to the Internet by 2021.[21] Murero et al.[18] found that, in a group of patients awaiting cardiac surgery, Internet-based education in the form of online medical information that was accessed and retrieved by patients decreased anxiety and improved social support, lifestyle and positive attitudes toward the surgery compared with traditional methods of education. Formats, such as animation and recorded audio, can be made patient-friendly to help bridge the gap between low and high health literacy. Online videos that are easily accessible can leverage useful formats and can serve as stand-alone educational tools or an aid to pharmacist-conducted education.[22]

The Canadian Cardiovascular Pharmacists Network (CCPN) is an independent group of Canadian pharmacists whose mission is to optimize the health outcomes of Canadians with or at risk of cardiovascular disease by promoting excellence in clinical practice and research. Previously, a web-based patient-focused video was developed by group members to educate patients about dual antiplatelet therapy in coronary heart disease.[23] Building upon this success, the group felt that there was a need to address misinformation around statins and cholesterol management in general. An extensive literature search of existing tools was conducted, and no patient videos addressing these issues were identified. A small group of CCPN members formed a whiteboard development team and, using expert opinion, came to consensus on the key teaching points on this topic, leading with a general approach and focusing in on medications. The group then approached an animation vendor to determine feasibility and cost of whiteboard development for a patient-directed education strategy.

Funding was obtained from Amgen Canada as an unrestricted grant with no influence on the project content. The script, covering the key messages and content of the video, was written by the members of the team. Four key messages formed the video: 1) what is cholesterol and why does it matter? 2) estimating risk: how much cholesterol is too much? 3) treatment of cholesterol and 4) adherence. The animation vendor generated a draft storyboard with the images intended to accompany the script. This storyboard underwent further review and revisions by the CCPN members before being finalized. The animation vendor then proceeded to animate the imagery from the storyboard, as well as generate the voiceover in-house and edit the product to produce the final video (Figures 1 and 2).

The whiteboard video, entitled "Cholesterol and Cardiovascular Disease: Treatment Considerations for Patients," provides education about dyslipidemia and its management in a concise manner, using patient-friendly language and visuals. It covers many options for treatment, rather than just statins, and highlights the benefits of medications and then the potential adverse effects, putting both into context with numbers. It is intended to be used by health care providers as an education tool for patients.

As this tool is available in an on-demand format, patients can view this information at any point within their health care journey: at home, in hospital or in the community. The video is available for download from YouTube (https://www.youtube.com/watch?v=k5efB2BB6N0), so it can be loaded onto local devices, allowing for education in a variety of locations. Options could include advising the patient and their families to view the video on mobile devices while waiting for their prescriptions, showing patients how to access the video at home, showing the video as part of community health initiatives and sharing the link with affiliated physician practices. Given that "education is the best medicine," pharmacists can ensure that patients are receiving not only best medication care but also the education to gain the most from it. ■

FIGURE 2 QR code for Lipid Therapy Whiteboard

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