New Study Strengthens Evidence of the Connection Between Statin Use and Cataracts; But Any Risks Should be Weighed Against Benefits
Reported in the Canadian Journal of Cardiology

Philadelphia, PA, December 2, 2014 – Few classes of drugs have had such a transformative effect on the prevention of cardiovascular disease (CVD) as have statins, prescribed to reduce total cholesterol and low-density lipoprotein cholesterol. However, some clinicians have ongoing concerns regarding the potential for lens opacities (cataracts) as a result of statin use. In an article in the Canadian Journal of Cardiology, researchers report increased risk for cataracts in patients treated with statins. An accompanying editorial discusses the history of statins and positions this new study in the context of conflicting results from previous analyses of purported adverse effects due to statin use.

In previous studies the association between statin use and cataracts has been inconsistent and controversial. The current study used data from the British Columbia (BC) Ministry of Health databases from 2000-2007 and the IMS LifeLink U.S. database from 2001-2011 to form two patient cohorts. The BC cohort was composed of female and male patients; 162,501 cases were matched with 650,004 controls. The IMS LifeLink cohort was comprised of males only, aged 40-85; 45,065 cases were matched with 450,650 controls. Patients using statins for more than a year prior to initial ophthalmology examination were identified. Diagnosis and surgical management of cataracts were followed.

In the BC cohort, there was about a 27% increased risk of developing cataracts requiring surgical intervention (Adjusted Risk Ratio, RR =1.27). In the IMS cohort, the increased risk was only 7%, but still statistically significant.

The adjusted RRs for long-term regular use of specific statins in the BC cohort ranged from 1.14 to 1.42. In the IMS cohort, the adjusted RRs for individual statins varied within a narrow range from 1.03 to 1.14. The investigators did not determine whether certain statins were worse than others, but most confidence intervals overlapped suggesting a class effect.

Lead investigator G.B. John Mancini, MD, of the Department of Medicine, Faculty of Medicine, University of British Columbia, Vancouver, Canada, states that, “Further assessment of the clinical impact of this relationship is recommended, especially given increased statin use for primary prevention of CVD and the importance of acceptable vision in old age where CVD is common. Future studies addressing the
possible underlying mechanisms to explain this association are also warranted. However, because the RR is low and because cataract surgery is both effective and well tolerated, this association should be disclosed but not be considered a deterrent to use of statins when warranted for CV risk reduction.”

In an accompanying editorial, Steven Gryn, MD, FRCPC, and Robert A. Hegele, MD, FRCPC, of the Department of Medicine, Schulich School of Medicine and Dentistry, Western University, London, Ontario, Canada, echo the need for balance.

They write, "Any medication that has beneficial effects has potential adverse effects; weighing the benefits against the risks is an integral part of the informed consent process, and is central to any decision to initiate treatment. Among patients who are at high CVD risk, like most of those seen by cardiologists...the prevention of CVD, stroke, and their associated morbidity and mortality vastly outweighs the risk of cataracts. Even among lower risk patients, for whom the benefit-risk ratio is less dramatic, most patients would still probably prefer having to undergo earlier non-life-threatening cataract surgery over suffering a major vascular event."

In any observational study, there can be unknown confounders that could introduce bias. Both the study itself and the commentary note this weakness, but both agree that this study, while not putting the issue to rest, does add significantly to the accumulated knowledge about the statin- cataract connection. However, as Dr. Hegele notes, "A randomized double-blinded placebo-controlled clinical trial is the best way to mitigate confounding, and such studies so far have shown no association of statins with cataracts."

### NOTES FOR EDITORS


Full text of this article and editorial is available to credentialed journalists upon request. Contact Eileen Leahy at 732-238-3628 or cjcmedia@elsevier.com to obtain copies. Journalists who wish to interview Dr. Mancini may contact him directly at 604-875-5477 or mancini@mail.ubc.ca. Contact Dr. Hegele at hegele@robarts.ca.

ABOUT THE CANADIAN JOURNAL OF CARDIOLOGY

The Canadian Journal of Cardiology (www.onlinejc.ca) is the official journal of the Canadian Cardiovascular Society (www.ccs.ca). It is a vehicle for the international dissemination of new knowledge in cardiology and cardiovascular science, particularly serving as a major venue for the results of Canadian cardiovascular research and Society guidelines. The journal publishes original reports of clinical and basic research relevant to cardiovascular medicine as well as editorials, review articles, case reports, and papers on health outcomes, policy research, ethics, medical history, and political issues affecting practice.
ABOUT THE EDITOR-IN-CHIEF
Editor-in-Chief Stanley Nattel, MD, is Paul-David Chair in Cardiovascular Electrophysiology and Professor of Medicine at the University of Montreal and Director of the Electrophysiology Research Program at the Montreal Heart Institute Research Center.

ABOUT THE CANADIAN CARDIOVASCULAR SOCIETY
The Canadian Cardiovascular Society is the professional association for Canadian cardiovascular physicians and scientists working to promote cardiovascular health and care through knowledge translation, professional development, and leadership in health policy. The CCS provides programs and services to its 1900+ members and others in the cardiovascular community, including guidelines for cardiovascular care, the annual Canadian Cardiovascular Congress, and, with the Canadian Cardiovascular Academy, programs for trainees. More information about the CCS and its activities can be found at www.ccs.ca.

ABOUT ELSEVIER
Elsevier is a world-leading provider of information solutions that enhance the performance of science, health, and technology professionals, empowering them to make better decisions, deliver better care, and sometimes make groundbreaking discoveries that advance the boundaries of knowledge and human progress. Elsevier provides web-based, digital solutions — among them ScienceDirect (www.sciencedirect.com), Scopus (www.scopus.com), Elsevier Research Intelligence (www.elsevier.com/research-intelligence) and ClinicalKey (www.clinicalkey.com) — and publishes nearly 2,200 journals, including The Lancet (www.thelancet.com) and Cell (www.cell.com), and over 25,000 book titles, including a number of iconic reference works.

The company is part of Reed Elsevier Group PLC (www.reedelsevier.com), a world-leading provider of professional information solutions in the Science, Medical, Legal and Risk and Business sectors, which is jointly owned by Reed Elsevier PLC and Reed Elsevier NV. The ticker symbols are REN (Euronext Amsterdam), REL (London Stock Exchange), RUK and ENL (New York Stock Exchange).