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Closing the Gender Gap: Young Women with Premature Acute Coronary Syndrome Now Do as Well as Men

Twelve-month prognosis is good and not dependent on sex, report investigators in the *Canadian Journal of Cardiology*

Philadelphia, PA, September 26, 2016 – It has become commonly accepted that women do worse than men following a heart attack or other coronary event. Earlier studies have documented that young women are more likely to die from cardiac-related events compared to men in the twelve months after hospital discharge. A new study published in the *Canadian Journal of Cardiology*, drawing on contemporary data from 26 hospitals, reports that young patients with acute coronary syndrome (ACS) have good one-year prognosis and that both men and women now do equally well.

The occurrence of coronary heart disease in the general population has steadily declined over the past few decades, however, premature ACS remains a significant cause of morbidity and mortality worldwide. The rate of decline in deaths from ACS among young to middle-aged adults has slowed, possibly due to increasing prevalence of abdominal obesity, diabetes, and hypertension in this population. In young women it has even increased.

“Despite such trends in younger adults, outcomes data in this population are still scarce,” explained lead investigator Louise Pilote, MD, MPH, PhD, Director of the Division of General Internal Medicine at McGill University, Montreal, Quebec, Canada. “Furthermore, sex differences in adverse clinical outcomes of these patients remain understudied. We therefore aimed to measure the incidence of adverse clinical outcomes, as well as rates and reasons for rehospitalizations over the twelve months following hospitalization for an adverse coronary event, in patients aged 55 years or less.”

Investigators used data from GENESIS-PRAXY (Gender and Sex Determinants of Cardiovascular Disease from Bench to Beyond in Premature Acute Coronary Syndrome), a multicenter prospective cohort study of patients hospitalized for ACS.

The wider aim of GENESIS-PRAXY is to document potential differences between men and women in presentation, access to care, and outcomes after the premature occurrence of acute coronary syndrome, and to investigate the potential biological, clinical, psychosocial, and environmental determinants of these differences.

Eligible patients were adults aged between 18 and 55 who were admitted to hospital with a confirmed diagnosis of ACS. Between January 2009 and April 2013, over 1,200 patients were enrolled in centers in Canada, the United States, and Switzerland.

Specifically, investigators documented two types of adverse clinical outcomes: major adverse cardiovascular events (MACE) defined as any occurrence of recurrent ACS, a need for percutaneous coronary intervention (PCI), coronary artery bypass grafting (CABG) surgery, or cardiac-related mortality; and death (all-cause and cardiac-related).

In contrast to earlier studies, these investigators observed similar rates of major adverse cardiac events, deaths, and cardiac-related rehospitalizations between men and women in the year following hospitalization for premature ACS. In both men and women, the majority of rehospitalizations were cardiac-related, with chest pain or angina the most common reasons for rehospitalization.

Women were overall more likely than men to be rehospitalized for all causes after premature ACS, regardless of ACS type, but this difference was not present when looking at cardiac-related rehospitalization specifically. Men and women faced a high, yet similar, likelihood of MACE within the twelve months following the initial event. Women did not have an increased risk of mortality compared to men, and the overall mortality rate was low. The survival rate at one year was 99%.

“Although women were more likely to be rehospitalized, they had similar outcomes to men,” commented Dr. Pilote. “It has been shown that women are more concerned and aware of their health than men, so it is possible that women have a greater rate of rehospitalization because they are more inclined to consult, and likely to be admitted following ER visits, given their recent ACS history.

“The 99% survival rate at one year is encouraging, and is lower than mortality rates observed in prior studies of older and comparable age patients, which may indicate that practices in younger ACS adults have improved,” she concluded.

“In 2012, almost 1,900 Canadians under the age of 55 died from ischemic heart disease, which accounts for 9% of all deaths under 55 years in Canada annually. Premature ACS is also a significant cause of lost work productivity, unemployment, and disability in this young age category,” noted Tara L Sedlak, MD, and Mona Izadnegahdar, PhD, of Vancouver General Hospital, Vancouver, British Columbia, Canada, in an accompanying editorial. “This comprehensive and well-written study is encouraging for the future and provides valuable and much needed insight into understanding and improving the prognosis of younger ACS patients. The results of this long-term study, among an ACS population, are reassuring in that no important differences were seen in mortality or MACE between men and women during the first twelve months.”

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NOTES FOR EDITORS

“Sex Differences in Clinical Outcomes after Premature Acute Coronary Syndrome,” by Roxanne Pelletier, PhD; Jin Choi, MSc; Nicholas Winters, MSc; Mark J. Eisenberg, MD, MPH; Simon L. Bacon, PhD; Jafna Cox, MD; Stella S. Daskalopoulou, MD, PhD; Kim L Lavoie, PhD; Igor Karp, MPH, PhD; Avi Shimony, MD; Derek So, MD, MSc; George Thanassoulis, MD, MSc; and Louise Pilote, MD, MPH, PhD (DOI: <http://dx.doi.org/10.1016/j.cjca.2016.05.018>).

Editorial: “Outcomes in Premature Acute Coronary Syndrome: Has the Sex Gap Closed?” by Tara Sedlak, MD, and Mona Izadnegahdar, PhD (DOI: <http://dx.doi.org/10.1016/j.cjca.2016.06.005>).

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Full text of this article and editorial is available to credentialed journalists upon request. Contact Eileen Leahy at +1 732-238-3628 or cjcmedia@elsevier.com to obtain copies. Journalists who would like to reach the study authors should contact Jasmine Poole, Division of Clinical Epidemiology, McGill University Health Centre (MUHC), at +1 514-934-1934, extension 1-44163 or jasmine.poole@clinepi.mcgill.ca. Journalists who would like to reach Tara Sedlak, MD, for comment may contact her at +1 604-875-5487 or Tara.Sedlak@vch.ca.

ABOUT THE CANADIAN JOURNAL OF CARDIOLOGY

The *Canadian Journal of Cardiology* (www.onlinecjc.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.

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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.

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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.

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