POHA — PACIFIC OPEN HEART ASSOCIATION

Pacific HeartBeat

JANUARY 2019 NEWSLETTER

Cardiology 2018: A Review of Recent Advances

By Dr Raymond Dong, MD, ABIM, FRCP(C)

Dr Raymond Dong

Strategies for the treatment of coronary heart disease can be divided into those therapies useful in primary prevention (i.e. before significant and symptomatic atherosclerosis develops) and those better suited for secondary prevention (i.e. after a cardiac event or intervention has already taken place.)

This brief article will discuss recent advances in secondary prevention as these developments may be applicable to patients that have undergone open heart surgery. These are measures that can be considered in addition to the lifestyle modifications that should already be underway. These include increased physical activity, weight control, smoking cessation, stable glucose control, sodium reduction, alcohol moderation and increased consumption of fresh fruits, vegetables, and low-fat dairy products.

Goals of therapy have been established for risk factor modification and are discussed in detail in the most recent guidelines issued by the Canadian Cardiovascular Society, and the American College of Cardiology/American Heart Association. We will look at some of the newer medication strategies aimed at some of the major risk factors discussed earlier.

If a patient has diabetes, the goal of management is to maintain a HbA1c concentration below 7%. In December 2016, regulatory bodies approved a new indication for Empagliflozin (Jardiance—a sodium glucose co-transporter (SGLT2) inhibitor) for reducing the risk of cardiovascular (CV) death in adults with type 2 diabetes and cardiovascular disease. This medication blocks the reabsorption of glucose by the kidneys, thereby increasing the glucose excretion in the urine and lowering blood sugar levels. The EMPA-REG OUTCOME trial was primarily responsible for this decision. This was a large trial which involved 7,020 patients with type 2 diabetes, with documented cardiovascular disease (who were already treated with ASA, ACE inhibitors and statins). A 38% relative risk reduction in cardiovascular mortality and a 32% risk reduction in all-cause mortality was found in the group that received empagliflozin as compared to placebo.

In August 2017, approval was given for a new indication for Liraglutide (Victoza—a GLP-1 (glucagon-like peptide) receptor agonist) that stimulates insulin secretion) to reduce the risk of major adverse cardiovascular events (cardiovascular death, non-fatal MI or non-fatal stroke). Approval was based on the results of the LEADER trial, which showed that use of liraglutide reduced the risk of major adverse cardiovascular events by 13% versus placebo and when added to standard medical care, yielded an absolute risk reduction of 1.9%. There was a reduction in cardiovascular death of 22% in liraglutide treatment versus placebo, and an absolute risk reduction of 1.3% (with non-significant reductions in non-fatal heart attack and non-fatal stroke).

With respect to cholesterol management in secondary prevention, the Canadian Cardiovascular Society published guidelines for therapeutic targets in 2016. Patients in need of secondary prevention already have clinical atherosclerosis, whether it be in the heart, brain, kidneys or peripheral arteries. The recommended treat-to-targets are: either an LDL-cholesterol < 2.0 mmol/L or a > 50% reduction from baseline values; or an apo-B < 0.8 g/L; or a non-HDL-cholesterol < 2.6 mmol/L. If these targets cannot be achieved by the highest tolerated dose of a statin (which is the first-line medication), then add-on therapy with Ezetimibe (Ezetrol) is an option. If these two medications do not achieve the desired LDL-cholesterol levels (especially if the patient has a genetic form of hypercholesterolemia), then consideration should be given to a new class of medications, the PCSK9 inhibitors.

PCSK9 (Proprotein Convertase Subtilsin Kexin type 9) inhibitors target and inactivate PCSK9, an enzyme which exists in the liver cells. This enzyme attaches and internalizes LDL receptors and promotes their destruction within lysosomes. Inhibiting this PCSK9 enzyme prevents LDL receptor destruction and thus enhances scavenging up of the LDL-cholesterol particles, which are the main culprit in atherosclerosis. Studies have shown that PCSK9 inhibitors can lower LDL-cholesterol levels by 50–70% over and above what can be achieved by statins alone. Presently, there are 2 of these agents available for use in Canada: Evolocumab (Repatha) and Alirocumab (Praluent). Recently reported studies with Alirocumab, when used in patients within 1–12 months of an acute coronary syndrome (ACS) event, reduced further ischemic events,

PACIFIC OPEN HEART ASSOCIATION

2019 POHA Annual General Meeting

Saturday, April 6, 2019 at 1:30 p.m.

Unitarian Church, 949 West 49th Avenue, Vancouver, BC (Oak & 49th Avenue).
Speaker: Dr Raymond Dong, MD, ABIM, FRCP(C)
Membership Registration desk will open at 1:00 p.m.
Refreshments will be served after the speaker's presentation.

including all-cause mortality, and myocardial infarction. More than 90% of these patients were already on high-dose statin therapy and with Alirocumab, the patients were maintained at LDL-cholesterol levels of between 0.64 and 1.3 mmol/L. These results appear to support the notion that "lower LDL is better" at any starting point. The highest cost-benefit ratio occurred in those patients who had an LDL-cholesterol greater than 2.6 mmol/L despite high-dose statin therapy. The major obstacles to more pervasive use of these medications are their cost and the need to administer them by subcutaneous injection every 2-4 weeks (as they are monoclonal antibodies)

Some patients have decreased left ventricular systolic function, even after they have had coronary revascularization. If they remain symptomatic with respect to heart failure, despite the use of "triple-therapy (including beta-blockers, ACE inhibitor/Angiotensin Receptor blocker, and Spironolactone), a now-established class of medication can prove useful. A change can be made from the ACEI/ARB to Entresto, a combination of Sacubitril and Valsartan. Sacubitril is a Neprilysin inhibitor. Nepriliysin is known as a neutral endopeptidase, an enzyme that degrades several endogenous vasoactive peptides. By blocking Neprilysin, Sacubitril increases the levels of these vasoactive peptides and thus countering the overactivated neurohormonal pathways that lead to blood vessel constriction, sodium retention and maladaptive remodelling of the heart (all of which are harmful to a failing heart). In the PARADIGM-HF trial, this new drug was compared to Enalapril (an ACEI) in 8,442 patients (mostly NYHA Class II and III in severity), with an ejection fraction of <35% (normal is > 55%). The trial was stopped early, after 27 months, because there was a 20% relative reduction in the primary outcome of a composite of death from cardiovascular causes or hospitalization for heart failure. There was also a decrease in all-cause mortality, cardiovascular mortality, and symptoms of heart failure.

Similarly, in some heart failure patients, the higher resting heart rates independently predicts cardiovascular disease events, including heart failure hospitalizations. Ivabradine (Lancora) has been approved for use in Canada, as a novel method for lowering heart rates. The SHIFT study looked at patients with coronary artery disease and an ejection fraction of < 40%. They also had to have normal sinus rhythm with a heart rate > 60 beats per minute. Over 10,000 patients participated in this study and the treated group received Ivabradine, 7.5 mg twice a day. This medication did reduce the incidence of fatal and non-fatal heart attacks in those with a baseline heart rate of > 70 beats per minute. Ivabradine did not reduce the composite end point of cardiovascular death, hospitalization for heart attack, or new-onset or worsening heart failure. Therefore, every effort should be made to achieve target or maximally tolerated doses of beta-blockers before starting Ivabradine therapy.

In conclusion, over the last two to three years, several important developments have occurred in the advanced treatment of some of the major risk factors for atherosclerotic heart disease. For those patients who are already in the post-surgical secondary prevention category, it is vital that they continue their recovery by practicing a healthy lifestyle, adhering to their medication regimen, and to "know their numbers" (i.e. what should the target be for their blood pressure, blood glucose, and LDL-cholesterol?). It is only when standard therapies are unable to help the patient achieve these targets, that the physician-patient partnership should begin to consider the newer modalities of treatment as discussed in this article.

Dr Raymond Dong, MD, ABIM, FRCP(C) was born in Vancouver, and is a graduate of UBC. He practiced at Shaughnessy Hospital and Delta Hospital. He has been in practice at Surrey Memorial Hospital from 1999 until the present.

President's Report

Rick Cozzuol

Another year has come and gone, hopefully, 2018 was good to you and your family. All of us at the Pacific Open Heart Association extend you best wishes in 2019.

In the past year our volunteer visitors saw over 2,500 patients who had to deal with an open heart procedure. An amazing accomplishment that, no doubt, made a huge difference to those dealing with the reality of such a frightening and life changing procedure. I recall talking to a POHA visitor prior to my surgery. It helped me cope with the fear and uncertainty that I was experiencing.

Our visitors are the face of POHA. As I enter the last few months of my presidency, I wish to express my deepest gratitude to all visitors and Board members. Your support has made my job much easier…thank you.

I am happy to report that we have added six new visitors at St. Paul's Hospital. For the first time in many years there will be a full team of 18 visitors!

Jennifer Rule recommended two visitors to take on her duties. Fortunately for POHA, they agreed! I am pleased to announce that Aaron Lanteigne, will be Team Captain and Richard Lemire will be the Assistant Captain. I am confident that these gentlemen will provide good leadership and add value to our Board.

Membership numbers continue to be a concern. They have remained unchanged. It is from our membership that we draw our visitors and Board members. It's important that we attract new members to continue the good work of POHA. Therefore, I ask all readers of this newsletter to become members, or to renew your membership—we need you! It just takes a few minutes to fill out a membership application from our website. Send us a cheque for $10.00 or use PayPal, if you prefer. The money is used to defray our operating costs.

As I mentioned earlier, I will be completing my term as your President. It's been an interesting and rewarding three years. I am grateful for your support during my tenure.

Our organization will be in good hands with our new President, Rolf Gullmes. Rolf will take on his new responsibilities after our Annual General Meeting in April, 2019.

Thanks again—Rick Cozzuol

Jennifer Rule

Jennifer Rule

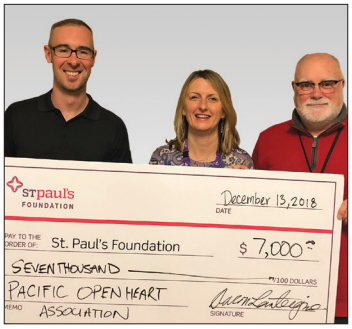
We are sorry to announce that Jennifer Rule, Team Captain at St. Paul's Hospital, passed away on December 1. She was a visitor at St. Paul's since 2001 and became team captain four years ago. Jennifer had two open heart procedures, both involving valve replacement. Despite significant health issues she did an amazing job as team captain and frequent visitor. In 2017 she received the Don Topp Trophy which is given to an individual who best represents the values of POHA.

Jennifer and her infectious laugh will be missed by all.

2018 POHA Hospital Donations

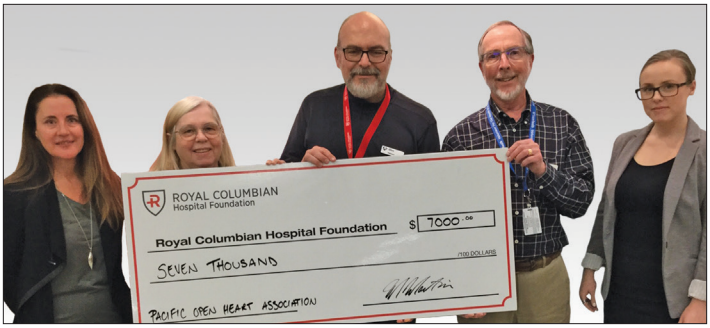
Vancouver General Hospital

POHA team captain, Alfred Buchi, presented a cheque for $7,000 to Nancy Sweetapple, Manager Cardiac Sciences at Vancouver General Hospital.



St. Paul's Hospital

POHA team captain, Aaron Lanteigne, and POHA team vice captain, Richard Lemire, presented a cheque to Barbara Hall, Patient Care Manager.



Royal Columbian Hospital

Kim Peacock, RCH Foundation, Kate Martin, Clinical Nurse Educator, Glen Doherty, Manager, 2 South, Mike Martin, POHA, Zehra Stark, RCH Foundation at the presentation of a donation to the Royal Columbian Hospital.

Christmas at the Surgery Hospitals

Vancouver General Hospital

POHA volunteer visitor, Deanna Frank, presents a poinsettia to Joël Fines at Vancouver General Hospital.

St. Paul's Hospital

POHA volunteer visitor, Colin Rolston, presents a poinsettia to a patient at St. Paul's Hospital.

Royal Columbian Hospital

Santa (Len Mueller) delivered poinsettias to the patients of the Cardiac Ward at Royal Columbian Hospital on December 24, but took some time to pose with the wonderful staff working that day.

The 35th Moe Pitcher Annual POHA Golf Tournament

Poppy Estate Golf Course • 3834 248 Street, Aldergrove, BC V4W 2B3 • Tel: 604-856-1181

Hello golfers.

The 35th annual tournament will be held Friday, June 14th, 2019 at the Poppy Estate Golf Course in Aldergrove. Please save the date. A complete registration package will be sent out early in the New Year.

We welcome all POHA members, your families and friends. Make up your own foursome! Our tournament is about renewing friendships and making new acquaintances.

If you are new to POHA, or have changed your email address, or do not have an email address, or have any questions, please contact me.

I hope that you will consider joining us.

Roger Kocheff
Tel: **604-467-2904**
Email: **rkocheff@telus.net**

Please send golf tournament information to:

NAME: _____

ADDRESS: _____

CITY: _____

POSTAL CODE: _____

PHONE: _____

EMAIL: _____

MAIL TO: 11961 – 203 STREET, MAPLE RIDGE, BC V2X 4V2

Poppy Estate Golf Course is located in a picturesque rural setting in the beautiful Fraser Valley just off Fraser Highway in Aldergrove, BC.

Aaron Lanteigne–New POHA Team Captain at St. Paul's Hospital

I am 34 years old. I was diagnosed with Tetralogy of Fallot at birth. I have had six heart surgeries during my young life, the first in 1984 and the sixth in 2004.

I moved to Vancouver in 2017 from Saint John, New Brunswick, to find employment as a crane operator and to get involved in acting.

During my employment search efforts I met Nils Hognestad who had open heart surgery and was a POHA volunteer visitor at St. Paul's Hospital.

I met Jennifer Rule, the captain of the POHA volunteers at St. Paul's, and I started volunteering in December of 2017.

I am so thankful for all the doctors, nurses, hospital staff, and, of course, my family, because without them I would not be alive today.

So volunteering with POHA is the least I can do to give back. I have had a fulfilling experience talking to pre- and post-open heart surgery patients and their families—especially when they express their appreciation for the visit and telling of my story.

YES! I WISH TO JOIN POHA

AND I ENCLOSE:

$10 ANNUAL MEMBERSHIP $ _____

DONATION AMOUNT $ _____

TOTAL $ _____

NAME _____

STREET ADDRESS _____

_____

CITY _____

POSTAL CODE _____

PHONE _____

EMAIL _____

SURGERY HOSPITAL _____

I AM INTERESTED IN:

☐ THE GOLF TOURNAMENT

☐ BEING A VISITOR

☐ BEING A SUPPORTING MEMBER WITH NO ACTIVE PARTICIPATION

POHA Supporters

Thank you for making Donations or *In Memoriam* gifts to POHA from December 1, 2017 to November 30, 2018.

Individual contributors: Norman Armstrong • Max Baer • Reg Belliveau • James A. Brown • Donald Butler • Camilla Butschler • Darcy Campbell • Edward Carroll • Ricardo Chang • Gordon Chiang • Barry Clark • Patrick Clark • David Clarke • R. & L. Clifford • Rick Cluff • Joan Crofts • Joan Dobson • Jim Dyson • Vera Endacott • Eileen Evans • George Faerber • William Fedechko • C. & N. Fisher • Matt Foley • Deanna Frank • Brian Franson • Dennis Friesen • Victor Gauvreau • Walter Gfeller • Heinz Gfroerer • Allan Gjernes • Alice Glover • Dorothy Glover • Betty Goodwin • Greg Graham • Lloyd Grondahl • Al Gross • Marc Haslam • Phyllis Hiltz • Francis Ho • David Hunter • James T. Hunter • Lee Johnson • Raymond Jones • Robert & Elizabeth Justason • James R. Kerr • John Keryluk • Jaide Kuraishi • Aaron Lanteigne • Robin Lapointe • Ellen Loughery • Dick Mackenzie • Ross McDonald • Bob McDowell • James McGuigan • Robert McIlwaine • Bill McIntosh • Peter McLoughlin • Arthur Miller • Esther Morisse • Neil Murray • Richard Nelson • Earl Nordstrand • Glenn Patrick • Peter Perkin • Dwayne Perry • Eric S. Pitt • Frank Powell • Jack Rae • Greta Richter • S. Salman • Maria Sastrillo • Michelle Schuss • George Sumyie • Nigel Toy • Leonard Visscher • John G. Walker • James Yang • Michael Zazkis

Corporate contributors: Connally Foundation • Founder's Cup Charity Foundation • TELUS.

Volunteers Needed

We are always in need of new volunteer visitors at all three surgery hospitals. This interesting, rewarding opportunity involves one to two hours about every other week. Training is provided. You will receive support from a team leader and various hospital staff who are always available for advice.

If you are interested, please contact one of the Pacific Open Heart Association team leaders for more information.

Vancouver General Hospital	
Alfred Buchi	604-581-5508
Royal Columbian Hospital	
Mike Martin	604-535-3195
St. Paul's Hospital	
Aaron Lanteigne	778-835-8572
Regional Hospitals	
Bob Axford	604-462-9295

Opportunity to Participate (update)

Submitted by Sean Hardiman, PhD Candidate, UBC School of Population & Public Health for the CR-TIMING Investigators

People who have coronary artery disease that involves more than one artery have choices available to them if medication is not enough to manage their health. They can choose to have angioplasty, with a short hospital stay and recovery time, or have bypass surgery, that involves a longer hospital stay and recovery time.

Bypass surgery offers several long-term health advantages to patients. However, surgical capacity is limited, and patients sometimes have to wait longer than recommended times. We want to know whether patients would benefit from having early angioplasty instead waiting beyond recommended wait times for bypass surgery.

In the July 2018 POHA newsletter, I told you that our group of researchers at the University of British Columbia's School of Population and Public Health, had applied to the Canadian Institutes for Health Research for project funding. Our proposal was successful and we are now able to move ahead with our project.

For our work to be meaningful to patients and their families, we want to invite individuals who have had bypass surgery to participate in our project's advisory committee. This will take the form of asking questions about your experience. Your answers will help to make our findings relevant to future patients who have to make the choice between angioplasty or bypass surgery.

We have a few volunteers already but we require more individuals to join our group. The commitment is nominal. For an hour or so every two to three months in 2019 we would contact you by teleconference. This would commence in late March 2019. If you have any questions about what's involved, please write me at **sean.hardiman@me.com** or call me at (778) 938-3270.

Pacific HeartBeat Newsletter

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Correspondence

Please send all correspondence to:
Pacific Open Heart Association
PO Box 45001, Ocean Park PO
Surrey, B.C., V4A 9L1