

CV network

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Photo: Stewart Waller/PR Newswire. © HHMI

Academy Fellow Robert Lefkowitz Awarded 2012 Nobel Prize

from news release by Duke University online

DURHAM, NC - Robert J. Lefkowitz MD, a Howard Hughes Medical Institute investigator who has spent his entire 39-year research career at the Duke University Medical Center, is sharing the 2012 Nobel Prize in Chemistry with Brian K. Kobilka of Stanford University School of Medicine, who was a post-doctoral fellow in Lefkowitz's lab in the 1980s.

They are being recognized for their work on a class of cell surface receptors that have become the target of prescription drugs, including antihistamines, ulcer drugs and beta blockers to relieve hypertension, angina and coronary disease.

The receptors catch chemical signals from the outside and transmit their messages into the cell, providing the cell with information about changes occurring within the body. These particular receptors are called seven-transmembrane G protein-coupled receptors, or just "G-coupled receptors" for short. Serpentine in appearance, G-coupled receptors weave through the surface of the cell seven times.

The human genome contains code to make at least 1,000 different forms of these trans-membrane receptors, all of which are quite similar. The receptors also bear a strong resemblance to receptors that detect light in the eyes, smells in the nose and taste on the tongue.

"Bob's seminal discoveries related to G-protein coupled receptors ultimately became the basis for a great many medications that are in use today across many disease areas," said Victor J. Dzau, MD, Chancellor for Health Affairs and CEO, Duke

University Health System. "He is an outstanding example of a physician-scientist whose impact can be seen in the lives of the countless patients who have benefited from his scientific discoveries. We are very proud of his magnificent achievements and grateful for his many contributions to Duke Medicine."

"We are thrilled that the Nobel Committee has recognized Bob's incredible body of work, and very proud that he has been on our faculty for his entire career," said Nancy Andrews, MD, PhD, Dean, Duke University School of Medicine. "Bob is not just an

extraordinary scientist but also a remarkable mentor; he has had a profound influence on the careers of more than 200 students and postdoctoral fellows."

In addition to being one of the longest-serving Howard Hughes Medical Institute Investigators in history (36 years), Lefkowitz is famous on the Duke campus for the attention he gives to mentoring his students. His lab has produced more than 200 graduate students and post-docs, including R. Sanders "Sandy" Williams, who later became his dean at Duke, and several researchers who went on to become HHMI investigators themselves. Lefkowitz is a professor of biochemistry, immunology and medicine, and also a basic research cardiologist in the Duke Heart Center.



In addition to a distinguished research career, Robert Lefkowitz also was known as a mentor to many leading scientists.
Photo by Duke University Photography

Among his students was Brian Kobilka, with whom he is sharing the Nobel Prize. Kobilka was a post-doctoral fellow in cardiology at Duke from 1984 to 1989 and part of Lefkowitz's lab. He joined the faculty of medicine and molecular and cellular physiology at Stanford in 1990.

They will receive the Nobel Prize in Stockholm at a Dec. 10 ceremony.

"He's awesome," said Xiao Zhu, who just completed an undergrad degree at Duke after two years of independent study research in the Lefkowitz lab. "He's really receptive to having me in the lab and he's the brightest guy. He's very hands-on with checking in on what I'm up to."

"Bob is the best mentor that he could be," said Arun Shukla, who was a post-doc and research scientist in the lab for six years before becoming an assistant professor at Duke. "Bob takes a great pride in training students and post-docs, and all of the big names in

GCPR have come from his lab. He wants his students to have a tight focus on their research, but encourages them to ask really big questions."

Lefkowitz's own scientific odyssey began in the early 1970s when he tried to develop a molecule that would bind to a specific receptor on the surface of a cell, which is like making a key for a lock that is too small to see. Trained as a cardiologist, Lefkowitz launched his quest by looking for adrenaline-sensitive receptors on the cell surface because he could use existing heart drugs that seemed to be acting on these receptors.

Many senior scientists at that time doubted whether cell surface receptors for chemical signals even existed. Lefkowitz started by fixing the drugs to a solid surface and washing them in a slurry of ground-up cell membranes. Binding occurred between pieces of membrane and the molecules showing there was some affinity there. Still, skepticism prevailed.

In the early 1980s, Lefkowitz's lab incorporated a cell surface protein that attached to adrenaline into cells that wouldn't normally have responded to adrenaline. The cells acted as if they had adrenaline receptors. "That really did it for people. They realized we had it," Lefkowitz said.

In the mid-1980s, the lab was able to clone the gene for the adrenaline receptor, which led them to the recognition of a familiar DNA motif and the rapid discovery of seven more, closely related receptors. This work opened up an entirely new area of pharmaceutical research.

In subsequent years, the Lefkowitz group, which has included as many as 30 workers in the lab, found the G protein-coupled receptor actually sets two chains of events in motion. It initiates signaling that cascades into the cell and prompts it to respond in an appropriate way. A second cascade is based on a feedback signal that leads to desensitization. A molecule called beta arrestin binds to the G-coupled receptor and dampens its sensitivity or even turns it off temporarily.

In recent years, Lefkowitz has been hard on the trail of a signaling molecule that will touch off the beta arrestin signaling loop without triggering the G-protein signaling cascade. The result could be a "super blocker" that would do the heart-helping work of a beta blocker while also stimulating beneficial beta-arrestin signaling.

"That's the nice thing about science," Lefkowitz said in a 2007 interview. "There's always a new detail to discover. It's like peeling an onion."

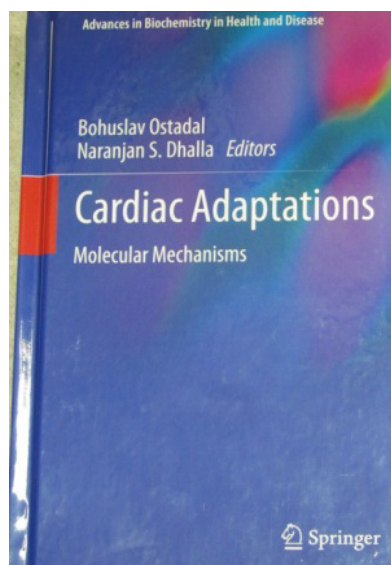
Editor's note: Dr. Lefkowitz is a Fellow of IACS. To enjoy the [Nobelprize.org](http://www.nobelprize.org/mediaplayer/index.php?id=1844) interview with him, please visit:

In 2003, Dr. Lefkowitz was one of the early recipients of the IACS' highest honour the Medal of Merit which has been presented to five Nobel Prize Winners among 28 outstanding cardiologists, surgeons and scientists for their outstanding achievements in cardiovascular education and research.

Prof. Makoto Nagano, Chairman of the Board of Directors of IACS and President, IACS-Japan, has been honoured with dedication of a book "Cardiac Adaptations: Molecular Mechanisms (edited by Bohuslav Ostadal and Naranjan S. Dhalla) and published by Springer Science and Business Media, New York.

DEDICATION

This book is dedicated to Prof. Dr Makoto Nagano for his exceptional leadership and extraordinary efforts in promoting cardiovascular science, translational medicine and young investigators throughout the world.



Makoto Nagano, MD;
Chairman of the Board of Directors,
International Academy
of Cardiovascular Sciences;
President, IACS-Japan; Professor Emeritus,
Jikei University, Tokyo, Japan

LETTER FROM THE PUBLISHER OF E & CC

Experimental & Clinical Cardiology is Soaring



It has been 17 years since Dr. Naranjan Dhalla, who was instrumental with Dr. Robert Beamish in starting the Canadian Journal of Cardiology, approached Pulsus Group and suggested we launch a cardiology journal for authors who have relevant research to publish but lacked the English skills required to publish in top journals. Dr. Dhalla introduced us to Dr. Bohuslav Ostadal, who would become the Founding Editor-in-Chief of the newly launched Experimental & Clinical Cardiology.

At that time we were focused on establishing and promoting the Canadian Journal of Cardiology, but this was a project that caught and held our attention as being important in the development of Cardiovascular Medicine. Since CJC has been sold to the Canadian Cardiovascular Society and is published by the Dutch/American behemoth Elsevier, we are in a position to lavish our attention on E&CC and take it to its rightful place amongst the top world cardiology publications.

E&CC is the official journal of the International Academy of Cardiovascular Sciences. It is indexed by all major indexing services, including Thomson Scientific ISI Web of Knowledge and its Impact Factor is increasing. It is available open access at www.pulsus.com and in 2013 it will be published once again in print. The lead authors of each published study will be provided with a one year free subscription to the print edition of the Journal.

Pulsus Group is making a significant investment into this Journal and guarantees the publication of all accepted papers within six months of acceptance. If we do not achieve this important benchmark, the paper will be published free of charge. Additionally, the publication charges for all accepted papers before July 31, 2013 will be reduced by 50% to \$100 per published page.

Pulsus Group looks after all the business aspects of Experimental & Clinical Cardiology but it is ultimately YOUR Journal and only you can influence the quality of it. We urge you to work with us to make it the best... by submitting your best work.

*Best regards,
Robert B Kalina
Publisher*

Editor's note: In 1999, my special friend Irene encouraged, no insisted, I get involved with the new electronic media. With the fortunate meeting of Oscar Li, I was able to create a web site for our World Heart Congress and it helped bring nearly 2,000 delegates from 72 countries to Winnipeg in July, 2001. Through E-mails, I made contact with a young cardiologist from Cuba. I realized that Delfin could barely speak English so I located Floribeth Aguilar working in Dr. Lorrie Kirshenbaum's lab to serve as Delfin's translator. Recently, Irene and I had dinner with Delfin and his daughter in Winnipeg and we shared the amazing developments in his career. He continues to practice cardiology in his hometown Holguin, Cuba but has participated in world-class research at the St. Boniface Hospital Research Centre. We are launching Ayelen's career as she has joined her Dad working this summer in Dr. Grant Pierce's lab before she enters Medical School (right after high school) in Holguin.

Delfin has visited Winnipeg 11 times, staying for as long as 6 months while he has been working on various research projects, most recently on FLAX-PAD on which he spoke at the recent Scientific Sessions of AHA in Los Angeles. The following was reported online by theheart.org



Our Friend from Cuba has become a Distinguished Researcher and Cardiologist

by Lisa Nainggolan

Los Angeles, CA - Adding flaxseed to the diets of patients with peripheral arterial disease (PAD) resulted in large drops in blood pressure (BP) of around 10 mm Hg systolic and 7 mm Hg diastolic after six months, according to the results of a double-blind, placebo-controlled study.

"This reduction of SBP and DBP after administration of dietary flaxseed is the largest decrease in BP ever shown by any dietary intervention," said Dr Delfin Rodriguez (University Hospital Holguin, Cuba) speaking here today at the American Heart Association 2012 Scientific Sessions. Such reductions would be expected to result in around a 50% fall in the incidence of stroke and a 30% reduction in MI, he added.

This reduction of SBP and DBP after administration of dietary flaxseed is the largest decrease in BP ever shown by any dietary intervention.

Rodriguez explained that the trial, FLAX-PAD, was conducted in PAD patients because they happened to have a clinic for the disease in their center and, as around 75% of PAD patients have concomitant hypertension, "it was an easy population to study."

Subgroup analyses of only the PAD patients with hypertension showed a greater reduction in SBP, of about 15 mm Hg, in these patients than in the study population as a whole and a similar reduction in DBP, he noted.

"Flaxseed represents a particularly attractive strategy for controlling hypertension in economically disadvantaged communities and countries, and its BP-lowering effects compare favorably with those of antihypertensive drugs and lifestyle modifications, such as a low-salt diet and weight loss," he noted.

Rodriguez said that he and his colleagues chose to study flaxseed because animal studies have shown it has antiatherogenic, anti-inflammatory, and antiarrhythmic effects and may reduce circulating cholesterol and trans-fatty acid levels.

They randomized 110 patients with PAD and an ankle-brachial index (ABI) <0.9 to milled flaxseed (30 g/day) in the form of bagels, muffins, and buns (n=58) or placebo products (n=52), made from wheat with a similar flavor, for one year.

Baseline characteristics were similar between the two groups, with hypertension being highly prevalent—around three-quarters of the PAD patients had high blood pressure, and 80% were taking antihypertensive medications. BP measurements were based on an average of three readings taken in the sitting position with a mercury sphygmomanometer by a trained nurse.

Rodriguez reported six-month results. "We obtained an important decrease in SBP and DBP using flaxseed compared with placebo," he observed, noting that the reductions were statistically significant ($p=0.04$ for SBP and $p=0.004$ for DBP). SBP in the placebo group increased by ~3 mm Hg and DBP remained the same over the six-month period.

He added that the results out to one year are in the process of being analyzed and will be presented at a future date. This includes trying to figure out which particular constituents of flaxseed may be responsible for the antihypertensive effects, he noted. The flaxseed group exhibited a twofold increase in plasma alpha-linolenic acid and a 10-fold increase in enterolactone levels ($p=0.003$), but levels of these compounds did not change in the placebo group.

"Flaxseed has different components, including alpha-linolenic acid, enterolignans, and fiber, and all have been shown to decrease BP. We think we are seeing a synergistic effect of different compounds," he commented. "But, the flax must be ground not plain seeds".



Program:

- Invited talks by experts
- Oral presentations by trainees
- Poster presentations
- Pre Symposium Workshops
- Awards for Young Investigators



Co-Sponsored by: The University Hospital, Holguin City, Cuba
St. Boniface Hospital Research Centre - The Institute of Cardiovascular Sciences, Winnipeg, Canada
International Academy of Cardiovascular Sciences
Cuban Cardiology Society, Cuba

PEOPLE AND PLACES

Fifty Years in Cardiovascular Research and Education

by Andras Varro, Szeged, Hungary and Teri Moffat, Winnipeg, Canada



The Middle-Cross Order, one of the highest honours in Hungary, has recently been awarded by the President of the Republic to Dr. Julius Gyula Papp in appreciation of his outstanding role in cardiovascular research and education.

With more than 50 years in cardiovascular research and education, Dr. Julius Gyula Papp celebrated his 75th year on August 29, 2012 with the distinguished title of Professor Emeritus at the University of Szeged, Hungary. He is now continuing his work as a Research Professor at the Division of Cardiovascular Pharmacology, Hungarian Academy of Sciences and University of Szeged.

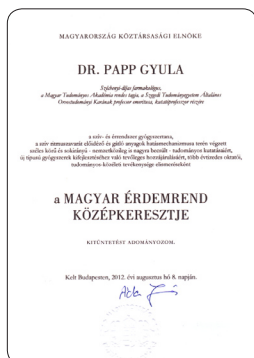
In his early years as a scientist, Dr. Papp studied at Oxford University and The University of Paris and obtained a number of scholarships and research grants. He went on to serve as Professor and Chairman, Department of Pharmacology & Pharmacotherapy, Albert Szent-Györgyi Medical University, Szeged. During his Chairmanship, Dr. Papp was the leader of the internationally recognized "Szeged School of Cardiovascular Pharmacology", established by his mentor Dr. Laszlo Szekeres. He was also prorector of the University (1991-2000).

Dr. Papp has studied a wide-range of problems in cardiovascular pathophysiology, pharmacology and therapeutics, including the mechanism of adrenergic activation in sudden cardiac death, the mode of action of adrenergic activators and inhibitors and their utility in various pathophysiological cardiovascular settings, and the electropathology of hyper- and hypothyroidism. He contributed largely to the development of new drugs, such as levosimendan, a novel ino-dilator for the treatment of heart failure. He also thoroughly investigated the age-associated changes in drug responsiveness in the heart; he was the first to study systemically the development of sensitivity of drugs and to analyze comprehensively the autonomic neural-humoral control of the human embryonic and fetal heart.

Dr. Papp served as General Secretary of the World Heart Federation (1999-2003) and Councillor (1984-88) and Vice President (1992-1994) of The European Society of Cardiology. He is a Member of 16 national or international scientific societies and Honorary Member of the Italian, Hellenic, Czech, Croatian, Romanian, Slovak, Slovenian, and Hungarian Cardiology Societies. Since 1993 he has been an academician (Member of the Hungarian Academy of Sciences). He is also an International Fellow of the American Heart Association and Fellow of the International Academy of Cardiovascular Sciences, The Royal Society of Medicine (London) and The European Society of Cardiology.

Dr. Papp has served on numerous editorial boards, including Basic Research in Cardiology, Journal of Cardiovascular Pharmacology and Therapeutics, and European Heart Journal. He has published 326 full text papers in peer-reviewed journals (with over 5000 independent references), 49 book chapters/articles and edited 12 books. He is also an excellent lecturer and teacher and has been invited speaker of numerous congresses and symposia in many parts of the world, including Europe, Canada, US, Israel, and South America.

In his eminent career, Dr. Papp has received a number of awards and distinctions, such as the Einthoven Medal of Distinction, Medal of Merit of the European Society of Cardiology, Albert Szent-Györgyi- and Széchenyi-Prizes, the White Rose Order (Finland), and the Officer's Cross-Order.



Online at: <http://dailyhealthweb.blogspot.ca/2011/03/dr-oz-heart-disease-risk-factors-3-new.html>

Dr. Oz on Heart Disease: The Shocking Truth



More than 1 in 4 women die from America's #1 killer: Heart disease. The brand new risk factors for women. Joining Dr. Oz is Dr. Bairey Merz with new risk predictors for heart disease in women.

Dr. Oz Heart Disease Risk Factors

WEDNESDAY – MARCH 16, 2011 – “THE NEW HEART DISEASE RISK FOR WOMEN! SHOCKING TRUTHS ABOUT HEART ATTACKS AND WOMEN” Heart Disease Risks; Dr. Oz goes through the new list of heart disease risks for women with Dr. Noel Bairey Merz. More than 1 in 4 women die from America's #1 killer: Heart disease. Joining Dr. Oz is Dr. Bairey Merz explaining up until recently doctors were only relying on studying the number one killer in this country in men. Today Dr. Oz reveals the new heart disease risk factors for women along with the stage full of women wearing T-Shirts with the year they are most likely to die of a heart attack.

Don't miss the warning signs for heart disease - Why do more women than men die from heart disease? More than one in four women die from heart disease, nearly triple the number of breast and lung cancer combined. Heart disease has been declining in men for more than 25 years.

Dr. Noel Bairey Merz wants to improve the odds for women, she is the Director of Women's Heart Center Cedars Sinai, in the field of women and preventive heart disease. Men and women are not the same when it comes

to heart disease says Dr. Bairey Merz. Identifying new risk factors for heart disease in women, new predictors is the holy grail in cardiology today. Up until now heart disease risk factors were the same for men and women but this is a battle women need to fight even more than men.

Dr. Bairey Merz said the biggest obstacle is that women don't think they're going to get heart disease, they don't take action and physicians don't think that young to mid life women can get heart disease. More women now die of heart disease than men. Heart disease is a woman's problem says Dr. Merz.

Three Heart Disease Risk Factors In Women:

1. New heart disease risk factor for women HDL Cholesterol Levels; The old rule was your HDL level be at least 40 for men and women. The new rule is that women should have HDL level above 50, women need higher HDL levels to protect themselves against the arterial plaque (clogged arteries)

2. New heart disease risk factor - menstrual cycle; A woman's menstrual cycle has an impact on heart disease. Dr. Merz said that Irregular periods are a risk factor for heart disease, it is an indicator of two conditions, one is called Polycystic ovary syndrome and the other is inadequate ovulatory functioning, not enough ovulation and therefore lower estrogen levels. This means your hormones are not working ideally said Oz.

Dr. Merz explained what an irregular period really means - with a chart she describes a young woman's period cycle of a regular period in the month of April, skips her period in the month of May (maybe some breakthrough bleeding), in June she finally has her period but it's too short, that's an irregular menstrual cycling and if it happens regularly, that's the definition.

All women go through menopause, between the ages of 45 and 55 natural menopause occurs and you'll start to have irregular cycles that is a normal function and it doesn't put you at risk for heart disease. It's while you're younger than 45 this irregularity counts.

3. New heart disease risk factor problems during pregnancy; Old Rule-pregnancy had no impact on heart disease. The new rule complications during pregnancy can dramatically impact your risk of heart disease.

Preeclampsia-hypertension, high blood pressure during pregnancy, gestational diabetes or a tendency to gain weight while you're pregnant, gaining weight and becoming obese during pregnancy, these are the 3 new risk factors for heart disease in women.

The Barbra Streisand Foundation is supporting this, if we can identify a good questionnaire and women can tell us accurately about Preeclampsia this will be better than cholesterol and high blood pressure says Dr. Merz.


Dr. Oz said if you have said yes to any of these risk factors of pregnancy related problems, irregular cycles or the HDL factors, and you think you fall into one of these categories add in the other risk factors you have in your life, you need to look at your risk for heart disease much more seriously especially if you have problems with blood pressure and blood sugars.


Oz said by the time your age 45 and you have one of these risk factors you need to get a general practitioner and tell him about these risk factors (You have to tell them about it, they are not going to ask you about it).

Traditional Risk Factors for Heart Disease

These are factors that affect risk for heart disease in women at about the same rate as men:

- Your age. More than 83 percent of people who die of heart disease are age 65 or older.
- Your family history. If you have a parent who has or had heart disease, you're more likely to get it. Risk also tends to be higher for African Americans, Mexican Americans, Native Americans, Native Hawaiians, and some Asian Americans.
- High blood pressure. When you have high blood pressure, your heart has to work harder and your risk for heart disease goes up.
- High cholesterol. Your risk for heart disease also goes up when your blood cholesterol level goes up.
- Obesity. Even when you don't have other risk factors, being overweight or obese raises your risk of heart disease, particularly if you have fat around your midsection.
- Metabolic syndrome. By definition, having a combination of three or more of these symptoms — a large waistline, insulin resistance, low levels of "good" cholesterol, and elevated triglyceride levels — raises the risk for heart disease, but the risk between men and women is equal, Bairey Merz says. Metabolic syndrome also raises the risk for diabetes.





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LETTER FROM THE PUBLISHER
Experimental & Clinical Cardiology: A rebirth

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Plans for the Global Network to Fight CVD Continue to Evolve

by Ivan Berkowitz, Winnipeg, Canada

Inspired by the leadership of our President James Willerson, we had a series of meetings in Los Angeles on Nov. 4 – 6. Our formal meeting on Nov. 5 brought together Drs. Willerson, Jay Cohn, Mohamed Boutdjir, Cristina Rabadan-Diehl (Deputy Director NHLBI Office of Global Health), Benedict Maniscalco (Chairman, Heartbeat International), Jianming Li (President, Chinese American Heart Association), Petr Ostadal and me. We reviewed our developing plan to build a mentorship program with the NHLBI Center of Excellence at St. John's University in Bangalore, India. Dr. Willerson has volunteered to serve as the first mentor for this project. Dr. Cohn offered that he has been asked to coordinate cardiovascular education with Bangalore by his University of Minnesota. I presented the plan which has been supported by our Committee Members Jawahar Mehta and Sharon Mulvagh to adapt guidelines for a protocol for Women's Heart Health in Gujarat, India. Dr. Boutdjir reported on a number of meetings and his appointment as President of the American Moroccan Competencies Network - with this network in place, he suggested we can start capacity building and research training in partnership with IACS. Dr. Maniscalco told us that he is very close to obtaining a large donation, part of which he plans to support our work. He and Dr. Li began a dialogue relating to HBI's locating of a source for low-cost pacemakers in India – I participated in a later discussion as well as introducing them to Dr. Delfin Rodriguez who confirmed the need for free products in Cuba. Dr. Rabadan-Diehl implored us to build more complete business plans to earn financial support. I also reported on my recent attendance at the NHLBI Centers of Excellence Annual Meeting where I began to build concepts for our support through identifying people who might help in Kenya, Bolivia and India as well as Rwanda.

I met again Hanif Smith, Programme Manager of the Caribbean Cardiac Society. I encouraged him to attend our 4th Symposium in Cuba in January 2013. I also have contacted our Committee Member Dr. Ernest Madu to meet us in Holguin to help build an IACS Section in Central America. Heartbeat International is anxious to collaborate through their centers in Trinidad and Guatemala. As well, the NHLBI Center of Excellence based in Guatemala would cooperate.

Our possible funding source for assistance of training young cardiologists from Mexico in Canada is not yet confirmed.

I had numerous conversations in our booth which confirm the need for our support.

Cohn Prevention Centers Expanding

by Ivan Berkowitz, Winnipeg, Canada



Maury Taylor Executive-Director at new Cohn Prevention Center Heart Savers™ in the Skywalk in downtown Minneapolis

IACS Fellow and Medal of Merit Recipient Dr. Jay Cohn (Director of the Rasmussen Center for Cardiovascular Disease Prevention, University of Minnesota) delivered our Harold Buchwald Lecture in Winnipeg in 2009 "A Strategy for Everyone to Live Past 100" available online at: <http://sbrc.tv/1/watch/60.aspx>. I recently visited Dr. Cohn's new initiative HeartSavers™ located in the Skywalk in downtown Minneapolis.

Cardio101 is their fast introductory heart disease early detection service for consumers. If one scores high on their Cardio101 test, they will be referred to the Cardio1000 service, comprehensive early detection service consisting of 10 tests. Their reasons why HeartSavers™ services are superior to other heart disease service methods:

- Earliest identification of heart disease known today
- Fast, non-invasive, and affordable
- Evidence-based Prevention

I have been obsessed by the interest expressed by Dr. Cohn's audience in bringing his Center to Manitoba. Funding is now in place from the St. Boniface Hospital Foundation to launch a research initiative through a centre led by Dr. Todd Duhamel who holds a joint appointment with the Institute of Cardiovascular Sciences at the St. Boniface Hospital and the Faculty of Kinesiology and Recreation Management at the University of Manitoba - "Early detection of cardiovascular disease and testing of a targeted healthy living intervention to restore cardiovascular health." He believes that Dr. Cohn's Center has the capacity to identify people who have early stages of cardiovascular disease, which provides a unique opportunity to research the health benefits of targeted interventions to restore cardiovascular health before these individuals require intensive medical care.

We anticipate working further with Dr. Cohn, who is an active member of the Global Network Steering Committee, to extend his wonderful initiative to emerging countries.

Academy Announces a Novel Cardiovascular Forum

by Naranjan S. Dhalla, Winnipeg, Canada

The International Academy of Cardiovascular Sciences (IACS) – North America is launching a program for promoting Centers of Excellence and young investigators in the form of a Cardiovascular Forum to be held annually at different institutions both in USA and Canada. The purpose of this program is to encourage collaborations and cooperation among cardiovascular investigators with diverse expertise and to avoid duplication of research projects in this continent. In particular, this program is designed to blend biomedical sciences with clinical investigations and to emphasize translational medicine for improving cardiovascular health. It is also planned to promote the interaction of graduate students, postdoctoral fellows, residents and clinical fellows with both young and well established investigators for finding solutions to diverse cardiovascular problems. This Forum will encourage both biomedical and clinical medicine trainees to participate in award competitions and help the young Faculty to highlight their own work in the form of orations. In addition to mentoring poster presentations for improving the quality of cardiovascular science, the work of several individuals will be recognized in the form of poster and other awards.

From the following outline, it can be seen that this program will consist of 4 state-of-the-art symposia session (5 speakers each) on selected topics in Cardiovascular Science and Medicine and 2 sessions on Frontiers of Pathogenesis and Prevention of Heart Disease (3 speakers each). There will be two named orations (Kern Wildenthal and Eric Olson) each with 5 young faculty (within 10 years of appointment). For the Kern Wildenthal Orations session, each speaker will highlight their own research in the area of clinical medicine/surgery. For the Eric Olson Orations, each speaker will make presentations of their own work in medical research. Speakers for James Willerson Clinical Award and Grant Pierce Biomedical Award competitions will be selected from the abstracts submitted for the conference. Four abstracts for poster presentation will be selected for special award. In addition, to these six awards, two established investigators will be honoured with Howard Morgan and Norman Alpert Awards at the banquet ceremony. The 2013 Organization Committee for the Cardiovascular Forum (list following) is helping to develop an exciting program. We believe that the multidisciplinary program being organized in Louisville during August 15-17, 2013 will provide the required stimulus for achieving excellence in cardiovascular science and medicine:

Day 1: 7:00 PM to 10:00 PM – Registration and Welcome Reception

Day 2: A. 8:30 AM to 11:00 AM

1. Scientific Symposium: MicroRNA and Cardiac Remodeling (5 speakers)
2. James Willerson Clinical Award Competition for Residents and Fellows (5 speakers)

B. 11:00 AM to 12:00 Noon

1. Frontiers in Cardiovascular Science (3 speakers)
2. Poster Mentoring

C. 12:00 Noon to 1:00 PM

Lunch and Networking

D. 1:00 PM to 3:30 PM

1. Scientific Symposium: Stem Cells and Cardiac Regeneration (5 speakers)
2. Grant Pierce Biomedical Award Competition for Graduate Students and Postdoctoral Fellows (5 speakers)

E. 3:30 PM to 5:30 PM

Poster Mentoring and Wine & Cheese

F. 7:00 PM to 10:00 PM

Networking and Informal Dinner

Day 3: A. 8:30 AM to 11:00 AM

1. Scientific Symposium: Autophagy and Cardiac Cell Death (5 speakers)
2. Eric Olson Orations in Cardiovascular Science (5 speakers)

B. 11:00 AM to 12:00 Noon

1. Frontiers in Cardiovascular Medicine (3 speakers)
2. Poster Mentoring

C. 12:00 Noon to 1:00 PM

Lunch and Networking

D. 1:00 PM to 3:30 PM

1. Scientific Symposium: Diabetes and Metabolic Syndrome (5 speakers)
2. Kern Wildenthal Orations in Cardiovascular Medicine (5 speakers)

E. 3:30 PM to 5:30 PM

Poster Mentoring and Wine & Cheese

F. 7:00 PM to 10:00 PM

Reception, Banquet and Awards

Organization Committee of the Cardiovascular Forum for Promoting Centers of Excellence and Young Investigators - Louisville, Kentucky (August 15-17, 2013)

A. Members of the Organizing Committee

Aruni Bhatnagar, Louisville
Roberto Bolli, Louisville
Arun Chockalingam, Bethesda
Sumeet S. Chugh, Los Angeles
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The Cardiovascular Forum for Promoting Centers of Excellence and Young Investigators

**August 15-17, 2013
at
The Galt House Hotel
Louisville, Kentucky**

**Sponsored by
International Academy of Cardiovascular Sciences – American Section**



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Academy Establishes James Willerson and Grant Pierce Awards for Promoting Cardiovascular Education

by Naranjan S. Dhalla, Winnipeg, Canada

The International Academy of Cardiovascular Sciences is pleased to announce the establishment of two annual award competitions for young investigators in the field of both clinical and biomedical sciences. One of the award competitions has been named as James Willerson Clinical Award Competition for Residents and Fellows.



Dr. James Willerson,
President,
Texas Heart Institute,
Houston, USA



Dr. Grant Pierce,
Executive Director,
St. Boniface Hospital
Research, Winnipeg,
Canada

The other is named as Grant Pierce Biomedical Award Competition for Graduate Students and Postdoctoral Fellows.

These awards (to be given annually) have been instituted to promote, encourage and recognize young talents in cardiovascular science, medicine and surgery. Five applicants in each category (Clinical and Biomedical), chosen from the abstracts received, will be asked to present their research (20 min talk) followed by discussion and winners will be identified. All selected contestants will receive \$700 each to cover their expenses. In addition, each winner will receive \$1000 cash prize and a plaque. The first presentations of these awards will be during the Cardiovascular Forum for Promoting Centers of Excellence and Young Investigators (Sponsored by the International Academy of Cardiovascular Sciences – North America Section) to be held in Louisville, Kentucky, August 15-17, 2013.

IACS has Established a New Initiative to Educate Professionals as well as the Lay Public in Manitoba

The primary focus will be to develop the vision for a new initiative “Heart Health Think Tank” involving health professionals and community leaders to advise how the Academy might encourage Manitobans to be more engaged in their own prevention of cardiovascular diseases. We believe our most significant contribution to heart health in Manitoba will be to improve communication between general practitioners, related health professionals, prevention programs and the general public. We also believe we should encourage employers to support their staff investigating their heart health and develop programs to avoid the major expense of heart diseases, morbidity and mortality.

Dr. Dhalla offered appointment to the Manitoba Advisory Board of the Heart Health Think Tank organized by the International Academy of Cardiovascular Sciences for a term of three years until July 31st, 2015. We are delighted that the following have been able to accept this appointment:

Dr. Luis Oppenheimer, MB Health
 Dr. Francis Labossier, CEO Victoria Hospital
 Mr. Kevin Kavanaugh, MB Business Council
 Mr. Jack Levit, President, Lakeview Developments
 Ms. Holly Toupin, RBC
 Mr. Sidney Halpern, CA
 Mr. Jim Carr, MB Business Council
 Mr. John Rae, CA
 Ms. Lea Girman, retired government official
 Dr. Samir Bhattacharya, retired cardiologist
 Dr. Alan Menkis, Medical Director, Cardiac Sciences Program
 Dr. Grant Pierce, Executive Director of Research, St. Boniface Hospital
 Ms. Sue Boreskie, CEO Reh Fit Centre
 Dr. Sharon MacDonald, MB Patient Access Network
 Mr. Charles LaFleche, President St. Boniface Hospital Foundation
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 Dr. Bram Ramijawan, St. Boniface Hospital Research Centre
 Dr. James Tam, Section Chief of Cardiology for the Cardiac Sciences Program
 Dr. Naranjan Dhalla, IACS Executive Director
 Mr. Ivan Berkowitz, IACS Heart Health Scholar

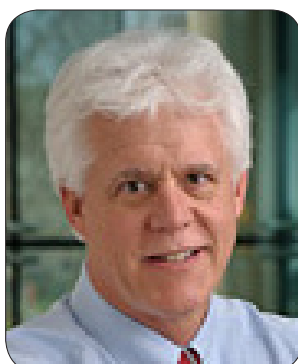
Prepared by Ivan Berkowitz, Nov. 7, 2012

Academy Honours Drs. Kern Wildenthal and Eric Olson by Establishing Cardiovascular Orations

by Naranjan S. Dhalla, Winnipeg, Canada



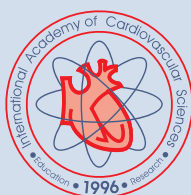
Dr. Kern Wildenthal (Dallas)



Dr. Eric Olson (Dallas)

The International Academy of Cardiovascular Sciences – North America Section has established two orations to honour the outstanding leadership and contributions of Drs. Kern Wildenthal (Dallas) and Eric Olson (Dallas) in the field of cardiovascular education and research. Both these individuals are role models and a source of inspiration for the cardiovascular community. For Kern Wildenthal Cardiovascular Orations in Clinical Medicine, five clinician scientists and for Eric Olson Cardiovascular Orations in Biomedical Sciences, five medical research scientists will be invited to present their talks at the annual Cardiovascular Forum sponsored by the Academy. These individuals (within 10 years of their faculty appointment) will be asked to highlight their progress and achievements in the area of their own investigations. Each speaker will be provided with free registration, hotel accommodation and full hospitality

during the conference. This feature of the Cardiovascular Forum is expected to help promote networking and linkages of different centers of excellence.



Officers and Directors of the International Academy of Cardiovascular Sciences

(Effective July 1, 2011)

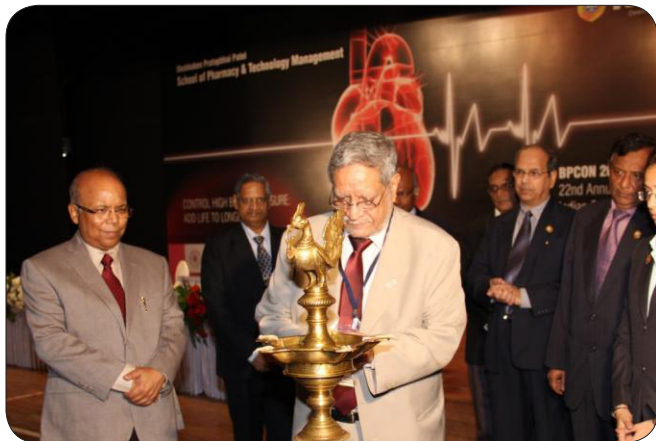
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Conference on Hypertension and Cardiovascular Diseases Organized in Mumbai, India

Prepared by Dr. V. Addepalli, Organizing Secretary



The Chief Guest Prof. Naranjan S. Dhalla, Winnipeg, Canada lighting the lamp during the inaugural function. Others seen are Dr. Rajan Saxena, Vice Chancellor NMIMS, Dr. Ramesh K. Goyal, President, ISH, Dr. V. Addepalli, Organizing Secretary, Dr. R. S. Gaud, Chairman LOC, Dr. Jatin Gandhi, Dr. Arun Chockalingam, USA, and Dr. V. V. Muthusamy, Sec. General ISH

The International Academy of Cardiovascular Sciences co-sponsored the 22nd Annual Conference of Indian Society of Hypertension at SPP School of Pharmacy & Technology Management (SPTM), NMIMS, Mumbai, India during 2-4 November, 2012. This conference attracted 48 scientists from 11 countries to deliver distinguished lectures in the field of hypertension and cardiovascular diseases. The World Hypertension League and the Canada-India Networking initiative also participated in this conference. The conference was attended by over 300 participants and 48 original research papers were presented by young investigators in Oral and Poster Sessions. The conference was a unique blend of pharmacologists, clinicians, basic scientists, social scientists and marketing personnel.

It is well known that hypertension is the hallmark of cardiovascular diseases. Prof. Naranjan S. Dhalla, Winnipeg, Canada, the Chief Guest and a world leader in cardiovascular sciences during his inaugural address called for the need of the prevention program to be developed for the cardiovascular diseases including hypertension. He commended the SPP SPTM for organizing such a conference with a theme of "Control High Blood Pressure: Add life to Longevity". Befitting to the theme,

Dr. Arun Chockalingam, representative of Canada India Network Society and World Hypertension League, delivered the key-note address on "Growing Epidemics of Hypertension and Related Cardiovascular Diseases in India". In addition to various lectures by eminent speakers, an open public blood pressure check-up program was arranged for two days wherein various pharmaceutical and related companies like Omron, Abbott, Glenmark and Lupin participated. A large number of people took advantage of this program. Fellowships of the Indian Society of Hypertension were awarded during the conference to Dr. Madhu Anand-Srivastava, Montreal, Dr. Sukhinder K. Cheema, St John's and Dr. M. E. Yeolekar, Mumbai, India. Dr. Pawan K. Singal, Winnipeg, Canada was honoured for giving the prestigious "Dr. K.G. Nair Oration".

Prof. Dhalla gave a plenary lecture on 'Reversal of cardiac modeling in heart failure' with anti-hypertensive drugs. Dr. Rosalind Marita, Mumbai explained how one can go beyond targets for new drug discovery and prevention of cardiovascular



Dr. R K Goyal, President ISH addressing during Inaugural function

diseases triggered by hypertension. Similarly, Dr. V. Addepalli, Mumbai, discussed about over-activation of matrix metalloproteins in hypertension being responsible for various complications and Dr. D.K. Agrawal, Omaha, USA presented data on Vitamin D and immunomodulators in hypertension. There were several innovative discoveries presented such as 'Cytokines in heart failure' by Dr. Pawan Singal, 'Role of Gi Proteins in hypertension' by Madhu Anand-Srivastava, and 'Role of inflammatory control in hypertension' by Founder President Dr. S. Vajpeyee, Surat. Dr. Swati Lad, Mumbai gave an overview of anti-hypertensive drugs currently in practice and Dr. Ratan Shrivastava, Varanasi gave data on 'Treatment seeking behavior of hypertensive patients'.

There were extensive clinical aspects deliberated in the field of hypertension. Leading physician Padma Bhushan Dr. G. S. Sainani, Mumbai, India gave a talk on 'Endothelial dysfunction and hypertension' and Prof. Harpal Buttar, Ottawa, Canada, gave a talk on 'Erectile dysfunction in hypertension' Dr. James Thomas, Ex-Vice Chancellor of D Y Patil University



Dr. Harpal Buttar, Ottawa, Dr. Pawan Singal, Winnipeg, Dr. Suresh Gupta President IACS, India-Section, New Delhi and Dr. S. Vajpeyee, Founder President of the Indian Society of Hypertension attending the sessions



MOU for the Hypertension detection program in India signed between Indian Society of Hypertension and Abbott

Mumbai in his Prof. R.J. Wegmann Oration highlighted various innovations in surgical processes to correct cardiovascular complications. Relationship between hypertension and cardiac arrhythmias was another interesting aspect presented by Dr. Peter Nanasi and Dr. Andras Varro from Hungary. Dr. K. Hristova, the cardiologist from Bulgaria deliberated on 'Microvascular disease in women and discussed about myocardial deformation imaging in systemic hypertension'. Dr. Rana Singh from Varanasi provided 'New insights in diagnosis and management for renal hypertension'.

One of the attractions of the conference was various innovations in blood pressure measurements and monitoring. Dr. Arun Chockalingam, USA described 'Importance of measurement of blood pressure accurately for effective management' and Dr. N. Chidambaram Chennai explained significance of home blood pressure measurement through reliable modern technology. A very exciting and thought provoking lecture was on Ambulatory

Blood Pressure Monitoring and the significance of White Coat Hypertension by Prof. R.J. Wegmann from Paris, France who was once nominated for The Nobel Prize for this discovery. Dr. M. E. Yeolekar, Ex-Dean and Superintendent of K E M hospital, Mumbai described significance of circadian dimensions in the treatment of hypertension. During the meeting, it was approved to undertake National Hypertension Surveillance Program by Glenmark and ISH-IN initiative. Further, the MOU for Hypertension Detection Camps was also signed by Abbott and Indian Society of Hypertension.

Considering the significance of herbal medicine and life style modifications for the prevention of hypertension, Dr. Jayeprakash, U.K. was invited to deliver Dr. U.V. Muthuswamy oration on 'Age management medicine: future of non communicable disease prevention'. Dr. Ashok Srivastava, Montreal, Canada presented data on effect of curcumin on endothelial-1 and insulin like growth factor-1 induced signaling and early growth response and gene level expression in vascular smooth muscle cells'. Dr. S. L. Bodhankar, Pune delivered a talk on significance of CoQ-10 enzyme in hypertension and Dr. D.W. Wilson, UK on significance of flavanoids in hypertension prevention. Dr. Samir Sammon gave an overview of the role of zinc in treatment of diabetes and hypertension. Dr. Lindsay Brown, Australia



Ms. Meghna Saraswat receiving the S. Vajpeyee Prize for the Best Oral Paper Presentation

gave the lecture on 'Functional foods in diet-induced hypertension and obesity'

Ms. Megha S. Saraswat, the student of Dr. V. Addepalli from Pharmacology Department SPP School of Pharmacy and Technology Management, NMIMS, Mumbai bagged the Dr. S. Vajpeyee Young Investigator prize of the Indian Society of Hypertension. Ms. Suchi Raghunathan, the student of Dr. Bhoomika Patel from Nirma University, Ahmedabad was given one of the best poster prizes. Dr. Manushri Srivastava, Varanasi was awarded with the best poster presentation prize and also V. Santaram prize for the best paper published.

"Whenever Flax (Lin) seed becomes a regular food item among the people, there will be better health." It was narrated by none other than the Father of the Indian Nation, Mahatma Gandhi. It was historical that for the promotion of usage of flax the vegetable omega 3 fatty acid in the Indian diet for the preven-



Ms. Suchi Raghunathan from Nirma University, Ahmedabad received Best Poster Prize



Mrs. Bhoomika Patel receiving the prize for the Best Poster Presentation

tion of chronic diseases such as diabetes, hypertension and cardiovascular diseases, the Indo Canadian Symposium was organized on this subject. It was jointly organized at School of Pharmacy & Technology Management, NMIMS, Mumbai by Indian Society of Hypertension in collaboration with Flax Council of Canada and Shastitri Indo-Canadian Institute, Canada. There were deliberations not only on the health benefits of omega 3 fatty acids and flax but also on strategies to promote usage and commercialization of flax between India and Canada. Trade Commissioner of Canadian Embassy also took interest in this event. The symposium on Flax was organized by Prof. Ramesh K. Goyal in collaboration with Flax Council of Canada and Shashtri Indo-Canadian Institute, Canada. Dr. Sukhinder K. Cheema and Ms Kelley Fitzpatrick presented the work being carried out in Canada with respect to omega 3 fatty acids and also the flax. Dr. Mahabaleshwar Hegde, Pune gave an over view of the program, 'Operation-Flax 3 Nutrition. Security

and resourcing omega 3 fatty acid from Flax'. Their team members Mr. Madhu Nair, Dr. P. B. Ghorpade and Dr. K. D. Yadav gave the steps being undertaken for the promotion of flax seed harvesting to utilization through quality food products in India. Dr. S. L. Bodhankar with his team presented original data on the health benefits of flax and its constituents in cardiovascular diseases. Dr. Meena, Mehta, Mumbai, Dr. K. Kansara, Ahmedabad and Dr. G. Sumeeta, Vadodara made presentations on the nutritional studies with flax in various recipes to the diseased subjects.

Dr V. Addepalli gave brief overview of the conference and while proposing vote of thanks mentioned that Eminent Scientists of International repute and cardiovascular thought leaders from overseas along with Researchers and Clinicians and Academicians from India shall add scientific flavor to this consortium. He further added, that it is indeed heartening to mention that in spite of American Heart Association Scientific conference in the USA being held at the same time, BPCON 2012 was able to attract quite a good number of eminent scientific speakers from abroad. Dr. V. Addepalli also expressed thanks to Dr. Dhalla, for readily accepting invitation as the Chief Guest of the inaugural function with his valuable message that will further lead the professional excellence in the research avenues to echo the ethos for health care.

Special thanks were conveyed to all foreign delegates who delivered invited talks. The participation of our Indian delegates was gratefully acknowledged. The Organizing Secretary further applauded the architect of BPCON 2012, Dr. R.K. Goyal, at the behest of SPP SPTM Dean's New initiative in conceptualizing the conference scientific ethos and steering celebrations in spite of his personal medical /health issues. Thanks were given to ISH in extending their support, particularly to Dr V.V. Muthusamy, Dr. N. Chidambaram and Dr. Vajpeyee for coordinating the activities and providing opportunity to hold this conference in Mumbai. Many of the scientists from various countries visited the School of Pharmacy at NMIMS and appreciated the infrastructure and facilities available. Overall, the conference was a grand success.

As we complete the 11th year of publication of CV Network, The Executive of the IACS expresses deep gratitude to all who have served this noble endeavour. We specifically thank those who have worked diligently on the Editorial Board. We recognize that we need to add some new ideas so we welcome volunteers for a new Editorial Board.

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One pill to cure them all: Single-drug polypharmacy in cardiovascular disease

Online at: http://www.theheart.org/article/1452321.do?utm_medium=email&utm_source=20121005_TopStories_EN&utm_campaign=newsletter

Hamilton, ON - Dr Richard Smith (UnitedHealth, London, UK), a longtime editor of BMJ, doesn't know his own blood pressure or LDL levels, but he believes he's keeping cardiovascular disease at bay by taking a polypill every day. Smith, who was enrolled in one of the early



Dr Richard Smith
[Source: St George's,
University of London, UK]

polypill trials, says he's done this since he was 56 years old.

"If I had to go to the doctor every three months to get my blood pressure measured and my lipids measured and have to go back to have my drugs titrated, I couldn't be bothered with all that," he said. "Because I get [my polypills] through the post, and I just take it every night, it's extremely simple."

Low-dose combination tablets go by many names—the term "polypill" was trademarked by an enterprising US pharmacist. Cardiovascular researchers working in this area have settled on "polypharmacy" or single-tablet multidrug combination therapy, but like its name, the ideal makeup for a polypill is still largely undecided. Proponents of the polypharmaceutical approach, where a single tablet contains a statin, ACE inhibitor, beta blocker, diuretic, and aspirin, say it might one day form the cornerstone of primary- and secondary-prevention treatment for cardiovascular disease.



Dr Salim Yusuf

Smith was just one high-profile name attending the Global Summit on Combination Polypharmacy for Cardiovascular Disease, organized by Dr Salim Yusuf (McMaster University, Hamilton, ON). Calling cardiovascular disease the biggest epidemic the world has ever known, "bigger than HIV," affecting nearly one in three individuals, Yusuf believes the magnitude of the problem and the ensuing worldwide shortage of cardiologists and specialists to treat cardiovascular morbidities cry out for new treatment paradigms.

"This is not about a pill," Yusuf told heartwire. "This is about a strategy to reduce cardiovascular disease by 50% globally in a cost-effective manner."

The two-day summit took place this week at the McMaster University Population Health Research Institute and included some of cardiology's biggest names grappling with the medical, scientific, legal, regulatory, economic, and social issues of trying to get polypharmacy treatments on the market for patients with existing cardiovascular disease, as well as for those at high risk for cardiovascular disease.

The polypill concept gained notoriety in a 2003 paper by Sir Nicholas Wald and Dr Malcolm Law (University of London, UK) in BMJ that provocatively claimed a combination polypill with a statin, three blood-pressure-lowering medications at half doses, an ACE inhibitor, aspirin, and folic acid could reduce the risk of ischemic heart disease by 88% and stroke by 80%. The British doctors raised the possibility of one day using the drug to treat all patients with cardiovascular disease as well as those 55 years of age and older, without measuring any risk factors.

This is about a strategy to reduce cardiovascular disease by 50% globally in a cost-effective manner.

"There is merit in the idea of treating all patients 55 years of age and older with a polypill, but right now there is too much resistance," Yusuf told heartwire. "That is a bridge that we might cross five years from now, but it will be debated. If you start to think of prevention and treatment paradigms, think about LDL cholesterol. The targets have been coming down and treatment has become more aggressive. And the targets have been getting closer and closer for the whole population. Right now, the low-hanging fruit is in secondary prevention for the implementation of the polypill, high-risk primary prevention for research, and the whole population for the future."

Dr Sidney Smith (University of North Carolina, Chapel Hill), the president of the World Heart Federation, told heartwire that one of the greatest challenges is simply getting patients to change their lifestyle, including stopping smoking, increasing physical activity, and eating healthier foods. The challenge after that monumental task is get these same individuals to adhere to those changes.



Dr Sidney Smith



Dr Srinath Reddy

"I personally do not think that taking medication should be a substitute for changing lifestyle," said Smith. "Now, in many areas, the cost of medication, when it is needed, is high and in many instances patients need to take more than one pill. I think the broadest initial application for a multidrug pill, the so-called polypill, will be in populations that are at high risk or have known disease and in countries that are low income or middle income and developing. Large populations of patients, such as in China and India, where the economies are developing and the healthcare systems are not set up to practice individualized medicine as we see in the US, might be best suited to the delivery of multidrug therapy by other healthcare workers."

Dr Srinath Reddy (Public Health Foundation, India) agreed there is concern the use of the polypill would overshadow the needed changes to lifestyle and diet. He said the use of the polypill raises the specter of two competing visions of society. In the first, social and personal changes are used to bring about intergenerational benefits, such as tobacco-cessation programs, so that each successive generation has a lower risk of cardiovascular disease than the one preceding it. The other vision would be a more medicalized society, one in which ailments and disease are treated with drug therapies. While such a strategy has the potential to reduce the risk of cardiovascular disease and stroke, it provides no health benefits to the following generations.

Throughout the meeting, the major discussions surrounding polypharmacy centered on who should be treated, what doses and formulations should be included in the polypill, how would the drug get approved by various regulatory agencies, who should administer medical treatment, and how the drugs would be distributed in low- to middle-income countries that lacked sufficient healthcare infrastructure. Aside from these massive hurdles, the experts agreed that adherence to medical treatment, whether the drug was in a single pill or treatment requiring multiple tablets, remains the elephant in the room.

I personally do not think that taking medication should be a substitute for changing lifestyle.



Dr Valentin Fuster

Dr Valentin Fuster (Mount Sinai School of Medicine, New York) noted that adherence to medical therapy declines 40% in the first six months after starting treatment. Fuster cited data from the Prospective Urban Rural Epidemiology (PURE) study showing large treatment gaps between affluent and underdeveloped countries with regard to proven secondary-prevention therapies. In addition, data from other trials, including the soon-to-presented FREEDOM trial of patients with diabetes mellitus, shows that just one in five patients had their cardiovascular risk factors controlled at follow-up. Similar rates of risk-factor control were observed in COURAGE and BARI 2D.

"We have a problem," said Fuster. "We can talk about any intervention we want, from stents to surgery to anything at all, but 80% of people are not reaching the risk-factor profile they are supposed to reach." The abysmal control of risk factors is occurring in clinical trials, Fuster pointed out, including the FREEDOM trial, where investigators were reminded every week to make sure patients were taking statins, aspirin, and other medications.

The underlying assumption of polypharmacy for cardiovascular disease is that a single drug with multiple compounds would improve risk-factor control because patients would be more likely to adhere to one medication. That, however, has not yet been proven in clinical trials. As Smith pointed out, adherence is a complex issue involving access, cost, and patient motivation, among other things. In the MI FREEE trial, for example, eliminating the copay for evidence-based cardiovascular medicines resulted in an adherence rate of less than 50%, a figure that was significantly higher than patients who had to make copayments, but low nonetheless.

Dr Susan Shurin (National Heart, Lung, and Blood Institute, Bethesda, MD), who spoke on the North American perspective of incorporating combination polypharmacy into a national strategy, believes that the development of a polypill belongs in the hands of the pharmaceutical companies and not the US government, but if such a multidrug strategy is to be approved or sanctioned, researchers would have to show the treatment had a "high impact" in that access and adherence were better and the single-combination tablet solved a problem the other generically available medicines could not.



Dr Susan Shurin [Source: NHLBI]

Some of the concerns about the polypill

Despite acknowledging the gap between ideal and real-world risk factor control across all types of cardiovascular disease and the fact that 15% of the world's population consumes 90% of the medicine, a discrepancy that afflicts poor and middle-income countries most, many of the summit's speakers said there are concerns about the limitations of single-drug polypharmacy. In fact, resistance to the polypill often comes from physicians who are concerned about side effects, the inability to titrate the individual drugs, and the risks if a patient misses multiple days of treatment or if they decide to take "drug holidays."

While titrating the doses of drugs, especially blood-pressure drugs, can further reduce individual risk factors, the net result would be a minimal reduction in overall clinical events, argued the researchers, and simply not worth the trade-off of increased side effects. Dr Anthony Rodgers (George Institute, Sydney, Australia) called such fiddling with doses "rapidly diminishing marginal returns in the pursuit of perfection."

If you use complicated risk-scoring systems or just age, you end up treating almost the same people.

At the extreme end of the polypill debate—prescribing the medicine to patients 55 years of age and older regardless of risk factors—many physicians would be reluctant to ignore cardiovascular risk scoring systems in favor of a one-size-fits-all approach to healthcare.

Former BMJ editor Smith, however, argues that age alone can be used to treat a vast majority of patients. “If you go around and use complicated risk-scoring systems, like Framingham, or use just age, in men and women, you end up treating almost the same people,” said Smith. “There are some differences, but there aren’t that many.” And the simplicity of the concept, he pointed out, ultimately reduces costs.

To heartwire, Smith said he believes, as do other physicians, that there is currently enough available evidence to approve a polypill today for secondary prevention given that each individual component of the drug has been shown to reduce cardiovascular risk factors and clinical events. In secondary prevention, the collective wisdom is that treatment with a polypill would reduce clinical events by 50% to 60%. In primary prevention, however, the panelists, speakers, and audience members all agreed that more research needs to be done. The state of evidence right now is that there is sufficient rationale for starting new trials, but many expect outcome studies will be needed for a primary-prevention polypill to see the regulatory light of day.

The next stages

During the summit, Dr Norman Stockbridge (Food and Drug Administration, Bethesda, MD) noted that the agency has not previously approved anything like the polypill. While there are at least 44 two-drug combinations for hypertension, there is no precedent for a three-, four-, or five-drug combination tablet. He added that the polypill concept also changes the practice of medicine, whereby physicians maximize the effectiveness of one drug before moving on to another. Dr Peter Mol (Medicines Evaluation Board, Utrecht, the Netherlands) said that regulatory agencies in Europe would likely want confirmatory clinical trials, and these studies vary depending on how the drug is to be used (first- vs second-line therapy).

Currently, there are a host of ongoing clinical trials, including the 600-patient FREEDOM study in patients with diabetes and the 4000-patient FOCUS study. One study, Use of a Multidrug Pill in Reducing Cardiovascular Events (UMPIRE), scheduled to be presented at the American Heart Association meeting in November, is part of a collaborative effort called Single Pill to Avert Cardiovascular Events (SPACE) being run by the George Institute in Sydney, Australia. Other trials in the SPACE collaboration include the Kanyini Guidelines Adherence with the Polypill (GAP) study, which is completed but unpublished, and the Improving Adherence Using Combination Therapy (IMPACT) trial, which is ongoing in New Zealand.

The HOPE-3 study is also testing polypharmacy in patients at moderate risk for cardiovascular disease (based on age and one other risk factor) and will include cardiovascular death, nonfatal MI, and stroke as the primary outcome. TIPS-3 is ongoing, and TIPS-4 is scheduled to launch in three months.

Another possibility of gaining regulatory approval is to bypass the agencies altogether and appeal to the World Health Organization to get a multidrug combination tablet on the “Essential Medicines” list. Before that, however, there is a need to develop a consensus statement about the unmet healthcare need, the safety and efficacy of the polypill in the intended population, including the minimum data required for secondary-prevention patients, and its relative cost-effectiveness compared with other agents.

ADVANCES IN HEART HEALTH

Are Wine and Cheese Healthy?

online from Dr. Andrew Weil, published 12/4/2012



One satisfying way to celebrate nourishing the body is with a glass of red wine and some cheese. The health benefits of red wine are plentiful: it has powerful antioxidant properties that are derived from the red pigments in grape skins (compounds that are members of a family of compounds called proanthocyanidins); it contains tannins that can help reduce the risk of heart attack by hindering the formation of blood clots; and studies have shown that red wine can raise levels of HDL, the protective form of cholesterol.

While I rarely drink red wine myself, I do think it’s beneficial for some people. I recommend organic red wine, and limiting your intake to no more than one, at most two, servings per day (if you do not drink alcohol, do not start for health reasons).

Cheese, I do enjoy. While I used to eat cheese sparingly (and with some guilt) because of its fat content and effect on cholesterol levels, research on its health benefits has led me to incorporate more cheese into my diet, as it’s a natural source of calcium and protein. Healthy options include organic, natural cheeses such as Emmental (Swiss), Jarlsberg and true Parmesan. Just a small amount of cheese offers a big taste, so a piece or two should be satisfactory.

ADVANCES IN HEART HEALTH

Reh-Fit Centre Sets New Global Standard as it Receives International Award as 2012 Certified Facility of the Year



On December 3, 2012, the Reh-Fit Centre announced it has been chosen as the "2012 Certified Facility of the Year" by the Medical Fitness Association (MFA). The announcement was made at the MFA Conference in New Orleans, LA.

This international award is presented annually to a certified medical fitness facility that clearly serves as a benchmark for the industry, and whose results others can emulate.

Michael Richmond, Chairman of the MFA, says that the Reh-Fit Centre was selected because it is an exceptional facility. Says Richmond,

"The Reh-Fit contributes significantly and consistently to the advancement of the medical fitness industry through its more than 300 programs and services."

In June, 2012 the Reh-Fit Centre in Winnipeg, Manitoba was recognized as Canada's first and only certified medical fitness facility, indicating that it has met the highest standards of quality and service. There are only 44 certified medical fitness facilities in the U.S., Canada, U.K., and South America. Now, this award places the Reh-Fit at the top of this elite group.

Sue Boreskie, CEO of the Reh-Fit Centre says they are honoured by the award in that it confirms that Manitobans are able to benefit from a highly effective approach to wellness. "We work with thousands of people every year who prove that the prescription for better health starts here. What makes us unique is our total approach to wellness which includes a personal assessment, education, hundreds of specialized programs and the support to ensure people achieve their goals."

Honourable Jim Rondeau, Minister of Healthy Living, Seniors and Consumer Affairs agrees this is a win for Manitobans. "It is a huge point of pride that the Reh-Fit Centre is recognized as a leading certified medical fitness facility in the world. But more importantly, it means that Manitobans have access to this facility and can be proactive in improving their health and reducing their dependence on the healthcare system."

Dr. Neal Lerner, Reh-Fit Medical Advisor believes that the approach advocated by the Reh-Fit Centre is the future of healthcare and can prevent illness. "We know that exercise is medicine. Through the programs and services we provide, we see how people are able to manage chronic conditions and, in many cases, reduce their use of prescription medication."

Last year Manitobans made more than 350,000 visits to the Reh-Fit Centre for support and guidance.

The MFA, a not-for-profit organization founded in 1991, is a professional association dedicated to the medical fitness difference of integrated care as the prescription for better health. The MFA serves facilities and professionals who are committed to promoting the benefits of health and fitness programs on lifestyle-related disease and making medical fitness programs and services available within their community. For more information on the MFA, visit www.medicalfitness.org

The Reh-Fit Centre is a not-for-profit, charitable organization with a mission to enhance the health and well-being of its members and the community by providing innovative health and fitness services through assessment, education, and exercise in a supportive environment. For more information on the Reh-Fit, visit www.reh-fit.com.



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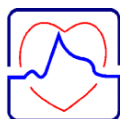
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