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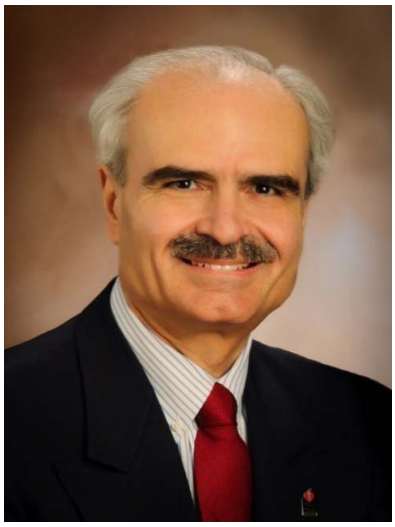
In this Issue

Book Dedicated to IACS President Roberto Bolli



Roberto Bolli, M.D., D.Sc. (Hons)

Both Drs. Bohuslav Ostadal and Naranjan S. Dhalla are honoured to dedicate a book "Sex Differences in Heart Disease" (Published by Springer Nature, Switzerland in 2020) to Dr. Roberto Bolli for his exceptional leadership in Cardiovascular Science and Medicine. Dr. Bolli is a Professor of Medicine and Director of the Institute of Molecular Cardiology in Louisville, Kentucky. He has been heavily engaged in training of numerous biomedical and clinical fellows from all over the world in the field of cardiovascular medicine for the treatment of heart disease. His dedication for promoting the future generation of cardiovascular clinician/scientists is extraordinary. Indeed, he was able to build a unique Centre of Excellence in Cardiovascular Medicine with respect to both educational and research programmes at his institution.

He is an outstanding investigator in the field of translational cardiology and has published an impressive piece of work in the form of 463 full length papers in high-impact journals; his research has received 35,603 citations with h-factor of 102. His research has focused on the mechanisms responsible for myocardial ischemia/reperfusion injury and on the development of cardioprotective strategies. He established a fundamental role of reactive oxygen species in the pathogenesis of myocardial stunning, and identified the signal transduction pathways as well as the protective genes responsible for the late phase of myocardial preconditioning. He was the first to show that cardiac progenitor c-kit+ cells work via paracrine action, a concept that has changed our understanding of cell therapy.

Dr. Bolli has done an exceptional service in developing Circulation Research in his capacity as Editor-in-Chief, the impact factor of this journal rose from 9.2 to 15.2 during his remarkable editorship (2009–2019). His global leadership in Cardiovascular Research is evident from the fact that he was elected first as Secretary General (1998) and then as President (2004) of a prestigious organization "International Society of Heart Research". He promoted this organization to its full potentials worldwide in addition to establishing two new awards to recognize the prominent investigators annually. He is currently serving as President of the International Academy of Cardiovascular Sciences. Several years ago, this academy not only recognized his distinguished achievements in cardiovascular medicine by awarding the highest honour "Medal of Merit" but also established the Roberto Bolli Competition for Young Investigators at annual meetings in North America. He has received several honours and awards including Fellowship of the Royal Society (Canada), Gold Medal from the Serbian Physiological Society and Gold Medal from the Institute of Cardiovascular Sciences, Winnipeg Canada.

As 2020 Disappears Into Our Rear View Mirror: A Message from the IACS President-Elect Grant Pierce

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It would certainly be accurate to describe the year 2020 as "unique". However, maybe that's a bit too gentle. I guess we could also throw in "challenging", "deadly", "frustrating", and "isolating". But even then, one must acknowledge that there have been many different individual perspectives of 2020 too. For some businesses, the pandemic has been a financial windfall but for others, bankruptcy is the unfortunate norm. For some people, it's been boring with the absence of travel, the isolation and the lack of human contact. For others on the front lines of health care, it's been anything but boring. Exhausting, stressful and life-threatening are more apt descriptions of 2020. If the year 2020 has been unique, it has achieved this also in the incredible variety of challenges and opportunities that it has introduced into societies and cultures all over the world.

For researchers across the world, the experience of a pandemic has been wildly variable as well. Some have had their research programs stimulated and brought to the forefront of both financial support and media coverage. For many more, research has been impeded significantly or even halted completely for long periods of time. Many of us have laboratories that are only partially functional. Students and Postdoctoral Fellows are blocked from crossing borders to take up new positions. Lab materials have been in short supply. PPE have been in great demand, and not always available.

I think I can speak for cardiovascular scientists all over the world who are associated with the International Academy of Cardiovascular Sciences (IACS): We have experienced all of these emotions and challenges in 2020. Heart disease, the world's leading cause of death, has taken a back seat to infectious disease. However, all scientists must acknowledge the one truism from the COVID-19 invasion: What is now abundantly clear from this pandemic is the critical value health research plays in the modern world. More than ever, the public has come to appreciate that it is only through research that we can climb out of this pandemic. And it is only by stimulating and supporting a healthy, prepared research infrastructure that the world can address this attack and the next inevitable medical dilemma to come along. There are no escape hatches. No society, no country in the world, however small or isolated, can hide their head in the sand and avoid the issue of responding to medical threats. Because all the world is a very small place today and we are all affected. And although it may not be uppermost in the minds of the public or scientists today, heart disease remains the #1 medical challenge this entire world will continue to face, long after we've all received our vaccinations.

We have missed IACS meetings planned in 2020 in North America, South America, India, Europe, and the Caribbean islands. These were excellent opportunities to meet our colleagues and learn from each other, exchange ideas and maybe even establish important scientific collaborations. If we ever took these conferences for granted, I doubt we ever will again. The important lesson moving forward into 2021 is to focus on the future. Science will recover in the cardiovascular field. It has to – too many people rely on us. IACS will re-organize meetings in all its locations across the world. Our interactions and our values are too great not to continue. We will be back. We will return. And we will be stronger with a new fresh energy and enthusiasm. No longer will we be taken for granted. The IACS will be back full steam ahead in 2021. Stay in contact with us via communication vehicles like CV Network and our numerous section web sites to gain the latest developments as we move on from the pandemic.

When we are once again allowed to meet, I, for one, will be an enthusiastic participant at an IACS conference. I will see you in the crowd! The end is in sight, or perhaps more correctly, the starting line is right in front of us!

22nd Institute of Cardiovascular Sciences, Naranjan Dhalla Cardiovascular Awards Day

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The Institute of Cardiovascular Sciences at the St. Boniface Hospital Albrechtsen Research Centre in Winnipeg, Canada has been holding an Annual Awards Day to celebrate excellence in cardiovascular research, education and training. Dr. Naranjan Dhalla the founder of the Institute of Cardiovascular Sciences established the Cardiovascular Awards Day to recognize an individual's leadership and achievements in promoting cardiovascular research, education as well as, their lifetime contributions to the cardiovascular community. These awards also honour individuals at various stages of their careers from summer and graduate students to world leaders whose achievements significantly influenced cardiovascular education and medicine.

The awards which have been named after several leaders in cardiovascular medicine, research and education as well as life-long service to the institute include; 1) Dr. Robert E. Beamish Leadership Award for outstanding leadership in cardiovascular sciences and education; 2) Mr. Ken Bowman Research Achievement Award for outstanding achievements in cardiovascular research; 3) Dr. John Foerster Distinguished Lecture Award for lifetime contributions to cardiovascular medicine; 4) Dr. Vincenzo Panagia Distinguished Lecture Award for cutting edge research in cardiovascular sciences; 5) Mr. Jack Litvak Exemplary Service Award for exemplary service to the Institute of Cardiovascular Sciences; 6) Dr. Arnold Naimark Young Investigator Award for excellence in cardiovascular research by a post-doctoral scientist; 6) Dr. Henry Friesen Young Scientist Award for excellence in cardiovascular research by pre-doctoral trainee; 7) Sr. Jacqueline St-Yves Publication Award for best paper published in cardiovascular research; 8) Institute of Cardiovascular Sciences Award for a trainee at the masters of science level, 9) Mr. Kalwant Dhalla Research Technician Award for high quality of dedicated technical services; 10) Dr. Ted Cuddy and Dr. James McGoey Student awards for exemplary performance of summer students. The awards day program is comprised by a gala dinner, poster competition, scientific program, and awards ceremony and reception. Over the years, this premier awards program has honoured many distinguished scientists and several Nobel Prize Laureates.

The 22nd Annual Institute of Cardiovascular Sciences, Naranjan Dhalla Cardiovascular Awards Day was held on December 17th 2020, with some slight modifications. Due to the Covid-19 pandemic and restrictions placed on travel and in person gatherings, the 4 major international awards were not awarded this year with the early career trainee poster competition and awards ceremony held by video conference.

The following are the 2020 Award recipients:

Mr. Jack Litvak Exemplary Service Award: Dr. Bram Ramjiawan, Director of Clinical Research, Asper Clinical Research Institute, St. Boniface Hospital, Winnipeg, Canada.

Dr. Henry Friesen Young Scientist Award: Mr. Kevin Boreskie, Winnipeg, Canada

Sr. Jacqueline St-Yves Publication Award for best paper: Dr. Alireza Rafieerad, Winnipeg, Canada

Institute of Cardiovascular Sciences Award for a trainee at the masters of science level: Dr. Rebeca De Oliveira Camargo, Winnipeg, Canada

Mr. Kalwant Dhalla Research Technician Award: Ms. Victoria Margulets, Winnipeg, Canada

T. Edward Cuddy Student Award: Ms. Rachel Cogan, Winnipeg, Canada

The awards program showcased the outstanding cardiovascular research and training in Winnipeg, Canada. We are very proud of Dr. Naranjan Dhalla for his vision and leadership for establishing the awards program which has become a world class event of the Institute of Cardiovascular Sciences at the St. Boniface Hospital Albrechtsen Research Centre and the University of Manitoba.


Happy Holidays!
Wishing you a Joyous
Holiday Season
And a Prosperous
New Year
(Please stay safe & healthy)
From: Naranjan S. Dhalla
Executive Director, International Academy of Cardiovascular Sciences
CV Network Editorial Staff; Drs. P.S. Tappia, S.K. Bhullar, and A.K. Shah as well as Teri Moffatt and Andrea Opsima

Implications of Obesity: Sex and Ethnic Variations

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Introduction

According to the WHO, the global incidence of obesity has nearly tripled since 1975. In 2016, more than 1.9 billion adults were overweight and 650 million of those were obese. An abnormal or excessive fat accumulation presents a risk to health in men, women and children. Men and women are different in their fat mass and distribution pattern. A healthy body fat level in men is considered to be between 12-18% (3% is essential for insulation and to protect vital organs). For males, a body fat level of >25% would be considered as obese. For women, a healthy body fat level falls between 20-25% (where 12% is considered essential for normal reproductive function), whereas a body fat level between 30-35% in women is categorized as obese. The level of subcutaneous fat is positively correlated to increased risk of obesity, which is more common in women than men, whereas visceral fat is positively correlated to risk of obesity in men than women. Also, a waist circumference of >102 cm in men and >88 cm in women is linked to an increase risk of obesity. Women have relatively more adipose tissue in the hips and thighs whereas central obesity typical in men [1].

While body fat as percent ideal body weight has been used for assessment of overweight/obesity, the body mass index (BMI, weight in kilograms/height^2 in meters) has also been used as a surrogate measure of fatness in children and adults. In adults, overweight is defined as a BMI of 25.0 to 29.9 kg/m2; obesity is defined as a BMI ≥30.0 kg/m2. It is evident that the global trend has been moving towards an increased intake of energy-dense foods that are high in fat, coupled with a decrease of physical activity due to an increasingly sedentary lifestyle, and thus the rise in the occurrence of obesity-induced complications have been linked to an exponential increase in BMI.

Obesity-induced health complications

Approximately 3 decades ago, the global focus was to combat childhood malnutrition and how to feed an increasing global population, today there is an additional challenge of managing obesity and concomitant non-communicable health complications [2]. Obesity increases the risk for developing hypertension and hypercholesterolemia, the risk for heart disease and occurrence of a stroke is elevated. We have recently published a book entitled "Biochemistry of Cardiovascular Dysfunction in Obesity" that describes in detail adverse cardiovascular outcomes due to obesity [3].

Most individuals with type 2 diabetes are overweight or obese. Although diabetes and high blood pressure are the most common causes of chronic kidney disease (CKD), recent studies suggest that even in the absence of these risks, obesity itself may promote CKD. Cancers of the colon, breast (post-menopausal women), endometrium (the lining of the uterus), kidney and esophagus have also been linked to obesity. Furthermore, some studies have reported an association between obesity and cancers of the gallbladder, ovaries, and pancreas. The incidence of gallbladder disease and gallstones are more common in overweight and obese individuals. Osteoarthritis is a common joint condition that most often affects the knee, hip, or back.

An abnormally high bodyweight adds pressure onto the joints, which degenerates the cartilage at a faster rate. On the other hand, gout, which is a condition that also affects the joints is caused by deposition of excessive uric acid crystals and is prevalent in overweight individuals. Sleep apnea is a breathing condition associated with being overweight that can lead to a brief interruption in normal breathing during sleep. In fact, sleep apnea can increase the risk for heart disease and stroke. Non-alcoholic fatty liver disease (NAFLD) due to fat accumulation in the liver causes liver injury. Fatty liver disease may lead to severe liver damage, cirrhosis, or even liver failure. Taken together, it is evident that understanding the cause of excessive weight gain as well as implementing measures that can prevent or treat it can result in a sustained weight reduction and normalization that would subsequently reduce the risk for obesity induced health complications. Severe obesity is more prevalent in women than men, and obesity-related disease risks differ in women and men. Although the underlying mechanisms are largely unknown, pre-clinical and human studies indicate that ovarian hormones may play a major role [4]. We have recently published a book entitled "Pathophysiology of Obesity-Induced Health Complications [5] that describes in detail some of the adverse health outcomes that occur due to obesity.

Obesity in women

More women are obese than men; in fact, more than 2 out of 3 women in the US are overweight or obese [1]. Bodyweight is a major issue for women [6]. Central obesity seems to have a stronger impact in African-American women than general adiposity as measured by BMI [7]. There has been a global increase of obesity in women that are of reproductive age that has resulted in infertility/reduced fertility as well as an increase in the time taken to conceive [8,9]. In addition, the development of obesity associated co-morbidities (i.e. type 2 diabetes and hypertension) increase the risk of adverse outcomes for both mother and child. Indeed, children of obese gravida are at a greater risk for the development of cardiometabolic disease in childhood and throughout adulthood [10].

Obese pregnant women are at a greater risk of premature pregnancy loss, increased risk of congenital fetal malformations, delivery of large for gestational age infants, spontaneous and premature birth, and stillbirth [11,12]. During late stage of pregnancy, the risk for gestational diabetes and pre-eclampsia are increased. Women with obesity can also experience difficulties during labor and delivery, and are more at risk of post-partum hemorrhage. With respect to long-term health complications in obese women, weight retention after delivery, and difficulties in subsequent pregnancy can occur [8]. It is pointed out that aside from the physical complications of obesity, obesity has negative psychological consequences particularly in women including impaired body image, low self-esteem, eating disorders, stress, depression and poor quality of life [13]. In addition, it is interesting to note that emotional problems such as depression, anxiety, and stress are associated with an increase in BMI during pregnancy have also been reported to occur [14]. It is evident that women with obesity need support to lose weight before they conceive, and to minimize their weight gain in pregnancy to reduce the risk of complications for both mother and offspring [8]. It should also be noted that polycystic ovary syndrome is a common endocrine disorder that results in polycystic ovaries and is often seen concomitantly with obesity [15]. This condition also represents an increase in the risk in the development of cardiovascular, metabolic syndrome and diabetes.

There are large variations in obesity and breast cancer rates worldwide and across racial/ethnic groups, however; most studies evaluating the impact of obesity on breast cancer risk and survival have been conducted in non-Hispanic white women in the US or Europe [7]. Since there are differences in tumor hormone receptor subtype distribution, obesity prevalence, and risk factor profiles, among women of different racial/ethnic groups, it would be expected that differences also exist in breast cancer risk. Indeed, obesity and a sedentary lifestyle may be two important modifiable risk factors for breast carcinoma and thus may have a significant public health impact in women from various racial and ethnic backgrounds [16]. Despite the paucity of data, some evidence suggests a stronger adverse effect of obesity on breast cancer risk and survival in women of Asian ancestry. For African Americans and Hispanics, the strength of the associations appears to be more comparable to that of non-Hispanic whites, particularly when accounting for subtype and menopausal status [17]. In the US, African American women are more likely than non-Hispanic European women to be obese and to be diagnosed with triple-negative breast cancer [17]. With respect to other specific women's health issues during obesity, despite extensive research examining adiposity, a weak positive correlation between the risk of ovarian cancer, the most fatal gynecological cancer, and adiposity has been reported [18].

Obesity is rapidly increasing in the US, particularly among women. Approximately 60-70% of hypertension in adults may be directly attributed to obesity. In addition, maternal obesity is a major risk factor for hypertensive disorders during pregnancy [19]. The underlying mechanisms for the association between obesity and cardiovascular disease (CVD) risk are multifactorial, but activation of the sympathetic nervous system is one significant contributing factor. Sex may influence the association between hypertension and sympathetic over-activity in obese people. Chronic hyperinsulinemia due to insulin resistance, high plasma levels of leptin, and obstructive sleep apnea may be responsible for sympathetic over-activity in obesity-related hypertension [19]. It is pointed out that weight gain in women in midlife is related to an increase in central fat distribution as a consequence of diminishing levels of estrogen [20]. Central obesity results in dysglycemia, dyslipidemia, hypertension and CVD. Since CVD is the leading cause of death in postmenopausal women, the importance of weight management cannot be overstated.

Role of ethnicity in other obesity-related diseases

In order to develop strategies for the treatment and/or prevention of obesity-induced health complications it may be prudent to understand and address differences in the occurrence of co-morbidities due to obesity as well as lifestyle factors that predispose ethnic groups to obesity [21]. Ethnic minorities are disproportionately affected by overweight and obesity that increases the risk for adverse health outcomes including CVD and diabetes [22].

An association between vitamin D status and obesity and obesity-induced co-morbidities has been proposed [23]. In this regard, ethnic minorities have higher rates of vitamin D insufficiency, which is correlated to obesity-related chronic diseases i.e. type 2

diabetes, CVD and metabolic syndrome. There is a high prevalence of obesity in American Indians of all ages and in both men and women [24] that has been linked to high rates of complications including type 2 diabetes, hypertension, dyslipidemia and respiratory problems. Such observations have been attributed to a high-fat, high-calorie diet coupled with a sedentary lifestyle. NAFLD has been reported to exist in approximately 30% of the world's population [25]. Epidemiological studies have concluded that ethnicity plays a role in complications and treatment response. The highest NAFLD prevalence is observed in Hispanic populations, exhibiting a worse disease progression. Interestingly, it has been reported that the Hispanic American population is at higher risk for obesity as well as diabetes and end-stage renal disease [26]. In contrast, African-Caribbean exhibit the lowest risk, with less severe steatosis and inflammation, lower levels of triglycerides, and less metabolic derangement, but conversely higher prevalence of insulin resistance. The prevalence of NAFLD in Asian cohorts is considered to be of epidemic proportions in these populations [25].

Obese women have a lower chance of pregnancy following in vitro fertilization, which also appear to be related to racial/ethnic background. In this regard, compared with normal-weight women, failure to achieve a clinical intrauterine gestation is significantly more likely among obese women overall, normal-weight and obese Asian women, normal-weight Hispanic women, and overweight and obese Black women. Among women who do conceive, compared with normal-weight women, failure to achieve a live birth is significantly more likely among overweight and obese women overall, and among overweight and obese Asian women, overweight and obese Hispanic women, and normal-weight and obese Black women. Although weight loss should be the first line of therapy for obese women, other lifestyle factors, such as regular physical exercise, elimination of tobacco use and alcohol consumption, and stress management, may be of more immediate benefit in achieving conception [12].

South Asians are at higher risk than white Caucasians for the development of obesity and obesity-related non-communicable diseases, including insulin resistance, the metabolic syndrome, type 2 diabetes and coronary heart disease (CHD) [27]. Rapid nutrition and lifestyle transitions have contributed to acceleration of obesity-related non-communicable diseases in South Asians. Differences in determinants and associated factors for obesity-related non-communicable diseases between South Asians and White Caucasians include body phenotype (high body fat, high truncal, subcutaneous and intra-abdominal fat, and low muscle mass), biochemical parameters (hyperinsulinemia, hyperglycemia, dyslipidemia, hyperleptinemia, low levels of adiponectin and high levels of C-reactive protein), procoagulant state and endothelial dysfunction. Higher prevalence, earlier onset and increased complications of type 2 diabetes and CHD are often seen at lower levels of BMI and waist circumference in South Asians than white Caucasians. Such differences may be accounted for by imbalanced nutrition, physical inactivity, perinatal adverse events and genetic differences.

Differences between South Asians and white Caucasians regarding lower disease awareness and health-seeking behavior, delayed diagnosis due to atypical presentation and language barriers, and religious and sociocultural factors, result in poorer prevention, less aggressive therapy, poorer response to medical and surgical interventions, and higher morbidity and mortality in South Asians. In 2011 and 2012, more than a third of the US population was obese [28]. Non-Hispanic blacks and Mexican Americans appear to be at higher risk for developing obesity as well as diabetes as compared to non-Hispanic whites for both adults and children [28].

While the prevalence of CKD is similar or slightly less in Hispanics than non-Hispanic whites, the prevalence of end-stage renal disease is almost 50% higher in Hispanics compared to non-Hispanic whites [29] that may be related to the greater prevalence of obesity in the US Hispanic population. It should be mentioned that since blood pressure is strongly related to body weight, the control of obesity is a key component in the prevention and control of hypertension [30]. Given the high prevalence of obesity in the African American population, especially among women [31], interventions for weight reduction would be highly beneficial as even a modest weight loss can not only prevent or reverse blood pressure elevations, but would also reduce the risk of obesity induced CVD, diabetes and hyperlipidemia [30].

Conclusion

From the aforementioned, it is clear that obesity is a major risk factor for several other health complications, a situation which is amplified if you are a woman and if an individual is of certain ethnic origin. Effective strategies for the treatment or prevention of obesity and associated adverse health outcomes need to take sex and ethnicity into consideration. While weight loss is the first line of therapy, other lifestyle factors including regular physical activity and stress management need to be part of a therapeutic regimen designed to reduce the global epidemic of obesity as well as associated health complications.

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IACS India Section Launches Student Essay Writing Competition

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"My barn having burned down, I can now see the moon." — ***Mizuta Masahide***

The entire world is going through unprecedented times. The Covid-19 pandemic has changed our perception of health and exposed the vulnerability of the human system. At the same time, it has taught us precaution, prevention and resilience. The spotlight has been on heart health and ways to protect the heart. Accordingly, the theme of 2020 World Heart Day was to use the heart to beat heart diseases. The idea was to use the heart to understand how to live a heart healthy life, influence the people we know, to make better choices, and to protect the vulnerable in the society. We, at the IACS India section thought of asking the young new generation on their thoughts about prevention, developments and experiences in managing diseases of the heart.

The IACS India Section-Academy of Cardiovascular Sciences in association with Rajiv Gandhi Centre for Biotechnology conducted an essay writing competition for school children as part of its Promotion of Heart Health among Children program (PRO❤C).

The competition was for school students of classes 9 to12 on the occasion of World Heart Day 2020. The theme of the essay contest was "Matters of the heart". Students were encouraged to write on any of the following topics: (i) history of developments in our knowledge about heart and heart diseases, (ii) pioneers in cardiology or cardiovascular surgery and their discoveries or inventions, (iii) causes or risk factors for heart diseases (iv) prevention of heart diseases, (iv) personal experiences on heart diseases. The best three essays would win prizes and the best ten will be featured in the Academy newsletter, *Matters of the Heart*. We enjoyed reading the student essays and were impressed with their awareness on matters of the heart and heart diseases. Selecting three best was a tough job for the four judges, who independently evaluated their essays for its contents, style and language and grammar.

The 3winners of the contest are: Adithya Kishor (First Prize), Ganga Ajith (Second Prize) and Aditya Krishnan (Third Prize). In addition to the essays of the winners, those of the following six students were selected for publication in Matters of the Heart (India Section IACS Newsletter); Adithyan A, Alana Shaji, Anagha Rajesh, . Anjeline Ann Reji, Aparna Prabhakar and Sarah Banerjee.

ACADEMY OF CARDIOVASCULAR SCIENCES

Indian Section of
INTERNATIONAL ACADEMY OF CARDIOVASCULAR SCIENCES

First Announcement

International Academy of Cardiovascular Sciences- India Section

Presents

MMCD-2021

International Conference on

Molecular Medicines for Cardiovascular Disorders

Rescheduled for Summer, 2021

CSIR-Central Drug Research Institute, Lucknow

Symposia

- The CR Soman symposium on Prevention of Cardiovascular Diseases.
- The N. Radhakrishnan Foundation symposium in Vascular Diseases.
- Riya and Paul Ganguly symposium on Diabetes.

Orations

SK Gupta Oration
Harpal Buttar Oration
Rakesh Kukreja Oration
RK Goyal Oration

Awards

NS Dhalla Poster Awards
SC Tyagi Young Faculty Awards
DK Agrawal Young Investigator Awards
CC Kartha Travel Awards

Conference Secretariat

Organizing Secretary : Dr Manoj Barthwal
Joint Organizing Secretary: Dr. Anil N. Gaikwad, Dr Kumaravelu Jagavelu

International Academy of Cardiovascular Sciences

CSIR-Central Drug Research Institute, Lucknow

Academy of Cardiovascular Sciences

Active Fellows of the International Academy of Cardiovascular Sciences (as of December 15, 2020)

1. **Dr. Francois Abboud,** Iowa City, USA
2. **Dr. Devendra K. Agrawal,** Pomona, USA
3. **Dr. Shyam S. Agrawal**, New Delhi, India
4. **Dr. Balram Airan,** New Delhi, India
5. **Dr. Rui S. Almeida,** Parana, Brazil
6. **Dr. Giuseppe Ambrosio**, Perugia, Italy
7. **Dr. Madhu B. Anand-Srivastava**, Montréal, Québec
8. **Dr. James A. Angus,** Victoria, Australia
9. **Dr. Paul W. Armstrong,** Edmonton, Alberta
10. **Dr. Malcolm Arnold**, London, Canada
11. **Dr. C.Noel Bairey Merz,** Los Angeles, USA
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13. **Dr. Kenneth M. Baker,** Temple, USA
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8th Annual Meeting of the International Academy of Cardiovascular Sciences

North American Section
Montreal, Quebec, Canada

Meeting re-scheduled for 2021, exact dates to be announced

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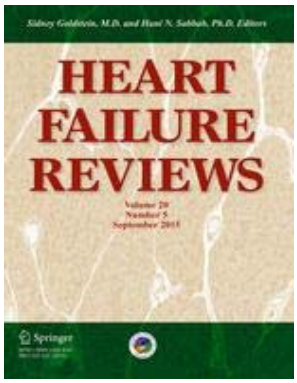

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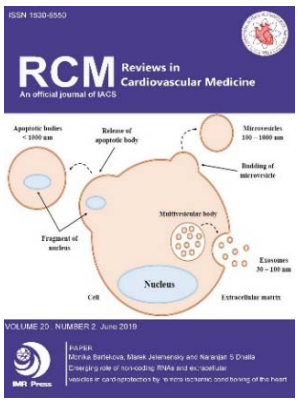

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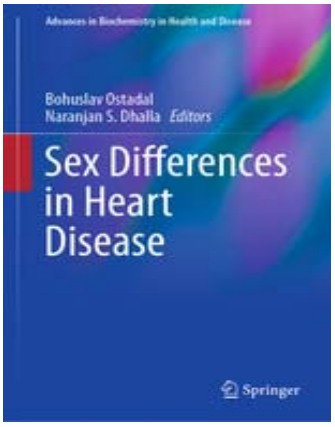
Re-scheduled for November 2021, exact dates to be announced

Ostadal and Dhalla Edit Book on Sex Differences in Heart Disease



Cardiovascular diseases are the leading cause of mortality in men and women. Unfortunately, women have traditionally been excluded from clinical trials, and female animals have been used less or sex was not reported in basic research studies. Until recently, consideration of both sexes was not required in clinical and preclinical studies focusing on cardiovascular diseases. However, the number of clinical and experimental papers dealing with sex differences and heart disease significantly increases during the last years. This trend is obviously the result of at least two facts: the number of examples of different behavior of the male and female heart under physiological and pathological conditions is steadily increasing and there were controversial reports on the beneficial and adverse effect of hormonal replacement therapy. Detailed molecular and cellular mechanisms of these differences are still unknown but one is clear already today: sex differences are so important that they should be considered by the selection of optimum diagnostic and therapeutic procedures in clinical practice.

The book presents 16 manuscripts on sex differences of heart disease, as developed by several investigators; the volume is organized in four parts. Part I, dealing with sex differences in cardiac ischemic injury, includes 5 chapters on experimental aspects of cardiac ischemia/reperfusion injury, the role of testosterone, and clinical aspects of ischemic heart disease. Part II is devoted to sex differences in heart failure and includes four chapters. Discussion in this part of the book is centered around the sex differences in heart failure due to volume overload. Part III of this volume includes four papers on risk factors of cardiovascular diseases, namely hypertension and obesity, and finally, three chapters in part IV deal with sex differences of cardiac mitochondria under different pathological conditions. We believe this book will be very useful for cardiovascular scientists, graduate students, postdoctoral fellows and other health professionals.

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7th Annual Meeting of the International Academy of Cardiovascular Sciences - European Section
Banja Luka, the Republic of Srpska, Bosnia and Herzegovina
16-19, September 2021

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Further details to be announced