Scientific Tracks & Abstracts
September 18, 2017

Heart Diseases 2017

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Recent developments in the kallikrein-kinin system with hypertension and diabetes

Jagdish N Sharma
Kuwait University, Kuwait

Diabetes has been implicated as a major risk factor in the development of cardiovascular and renal complications. Previous studies have indicated altered activities of the bradykinin-forming components in diabetic patients as well as diabetic experimental animals. Type2 diabetes can lead to hypertension, renal and cardiac complications resulting in high rates of mortality worldwide and in Kuwait as well. Bradykinin (BK), a pharmacologically active polypeptide, is one of kinins which is released in the tissues and body fluids as a result of enzymatic action of kallikreins on kininogens. The two types of kallikreins are tissue kallikrein and plasma kallikrein. Tissue kallikrein is mainly expressed in the kidney (urine), glandular tissue, vasculature, heart and brain. It preferentially acts on low molecular weight kininogen substrate to release lysyl-BK. Tissue kallikrein has also been reported to be present in plasma . Plasma kallikrein acts on high molecular weight kininogen substrate to release BK. BK promotes both cardiovascular and renal functions, for example, vasodilation, naturesis and diuresis (7,8). BK is rapidly (< 15 sec) inactivated by circulating kinases (9). BK acts on B1receptors and B2 receptors to elicit physiological and pharmacological actions. It has been shown previously that type 1 diabetic patients are at a risk of developing nephropathy.

In addition, BK has been implicated in the pathophysiology of hypertension. In this regard, it is suggested that the role of renal BK is to excrete the excess of sodium. Therefore, a reduction in the generation of renal BK may be the cause in the development of hypertension as a result of the accumulation of sodium in the body. Thus, the development of a compound having renal kallikrein-like activity may serve the purpose of excreting excessive sodium from the kidney in the treatment of hypertension. Transgenic mice over-expressing renal tissue kallikrein were hypotensive and that administration of aprotinin, a tissue kallikrein inhibitor, restored the BP of the transgenic mice. Recently, it has been proposed that tissue kallikrein gene delivery into various hypertensive models exhibits protection, such as reduction in high blood pressure, attenuation of cardiac hypertrophy, inhibition of renal damage and stenosis. This may indicate the future therapeutics aspect of tissue kallikrein gene therapy for hypertension, cardiovascular and renal pathology. Abnormal BK and nitric oxide levels have been demonstrated in diabetic patients in our study.

Speaker Biography

Jagdish N. Sharma is currently a Professor in the Department of Pharmacology and Therapeutics of which he is the Founding Chairman, Faculty of Pharmacy, Kuwait University, Kuwait. He has also served as a Professor of Pharmacology at the Universiti Sains Malaysia, Penang, Malaysia, prior to joining Kuwait University in 1999. Prof. Sharma received his B.V.Sc. & A.H. (D.V.M.) in 1970 from Jawaharlal Nehru Agricultural University, Jabalpur, India; his M.Sc. in Medical Pharmacology in 1973 from the All-India Institute of Medical Sciences, New Delhi, India; and his Ph.D. in Pharmacology in1976 from the University of Strathclyde, Glasgow, Scotland, UK. The Calamus International University, London in 2011, awarded D.Sc. degree in Health Sciences to Professor Sharma in recognition of his outstanding highly accomplished professional achievements in research and academic contributions. In 1995, he was elected to an F.C.P. (Fellow) from the American College of Clinical Pharmacology, New York, USA and an F.I.Biol. (Fellow) in 1997 from the Royal Institute of Biology, London, UK. This is a highly prestigious award considered to be at the level of British DSc. Prof. Sharma is an author of a book entitled "Topics in Mediators Pharmacology", which has been published by the Nova Science Publishers Inc., N.Y., USA. Prof. Sharma is the Editor of a book Progress in Drug Research" series entitled "Recent Developments in the Regulation of Kinins" 2014 which is published by Springer Basel AG, Switzerland. He has been to numerous International conferences as invited speaker. Prof. Sharma has been holding several research grants for the support of his clinical and basic research activities and supervised PhD and MSc theses. He has been PhD external examiner and evaluator for promotions to the ranks of Associate Professor and Professor externally. In Malaysia, his research investigations were funded by the Ministry of Science and Technology, Malaysia. Currently his clinical priority research grant is funded by the Kuwait University research sector. He is the editorial board member of Pharmacy Times (USA) of Middle East from 2007 to date, Inflammopharmacology (UK) from 1997 to date, International Journal of Immunopathology and Pharmacology (Italy) from 2006 to date, European Journal of Inflammation (Italy) from 2006 to date, Archives of Medical Research (Mexico City) from 2006 to date, Clinical Medicine: Endocrinology and Diabetes (New Zealand) from 2008 to date, Clinical Medicine: Therapeutics (New Zealand) from 2009 to date, American Journal of Biomedical Sciences (USA) from 2009 to date and Journal of Pharmaceutical Technology and Drug Research (UK) from 2011 to date. He has 110 publications in reputed international biomedical journals, and 65 abstracts of national and international conferences. His work is supported by the Kuwait University Grant RP01/09.

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The effect of polysaccharides peptides *Ganoderma lucidum* to intimal-media thickness and perivascular adipose tissue in type-2 diabetic model *Rattus norvegicus* strain wistar

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Background: Diabetes mellitus is a chronic disease and correlates to the future major adverse cardiovascular events. Perivascular Adipose Tissue (PVAT) is an important site of regulating vascular dysfunction in diabetes. Polysaccharides Peptides (PsP), extract of *Ganoderma lucidum*, is one of the antioxidant therapies which is currently developed as complimentary diabetes therapy. This study was conducted to determine effect of PsP as an antioxidant agent to inhibit the thickness of perivascular adipose tissue (PVAT) in diabetic model rats.

Methods: It was an experimental study with post-test only on control group design on male rats *Rattus norvegicus* aged 8 weeks. We administered high fat diet (HFD) and low-dose streptozocin (STZ) to make them diabetics, followed by PSP for 4 weeks. Samples were collected from rat aortic arch slice and then were read using light microscope.

Results: One-way ANOVA analysis showed that there is significant difference of vascular intimal-media thickness in at least two treated groups (p=0.000). Post Hoc analysis with LSD showed that PsP with dose 150 mg/kgBW and 300 mg/kgBW can inhibit atherosclerotic process and reducing vascular intimal-media thickness into the condition of approaching normal group. Based on Pearson correlation test, there was a sufficiently strong correlation between PVAT thickness in negative control group and diabetic model rats with PsP 150 mg/kgBW group.

Conclusion: Administration of PsP was proved to decrease the vascular intimal-media thickness diabetic model rats. The dose of 150 mg/kgBW of PsP is the optimal dose in decreasing the vascular intimal-media thickness in diabetic model rats. Besides, PsP also decreases the Perivascular Adipose Tissue (the PVAT) thickness and acts as an antioxidant.

Speaker Biography

Djanggan Sargowo, MD, PhD, FIHA, FACC, FESC, FAPSC, FAsCC, FINASIM, is a Professor at the University of Brawijaya, and is board certified in Internal Medicine and Cardiovascular Disease. His clinical interests include management of ischemic heart disease, congestive heart failure, hypertension, diabetes mellitus, dyslipidemia and peripheral vascular disease. He received his MD from University of Gadjah Mada, Yogyakarta, Indonesia. He received training in Internal Medicine at Airlangga University and Cardiology at University of Indonesia. He received his PhD degree in Medicine from University of Airlangga. In the past, Barry served as Head of Cardiology and Vascular Department at Dr. Saiful Anwar General Hospital Malang and Director of Postgraduate Program at University of Brawijaya. He is currently a Fellow of Indonesian Heart Association, a Fellow of the American College of Cardiology, a Fellow of the European Society of Cardiology, a Fellow of Asia Pacific Society of Cardiology, a Fellow of ASEAN Federation of Cardiology, and a Fellow of Indonesian Society of Internal Medicine. He serves as Director of Brawijaya University Teaching Hospital, Chairman of Malang Molecular Biology Institute and as Chairman of Center for Degenerative Diseases, Brawijaya University.

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Significant association of coronary artery calcification with heart failure in patients without a history of coronary artery disease

Satoru Sakuragi
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Traditional risk assessment for coronary artery disease (CAD) using coronary risk factors has been refined with the selective use of coronary artery calcium (CAC). This is possible because CAC is pathognomonic of atherosclerosis, and a histological study showed its close correlation with the atherosclerotic plaque burden. The severity of CAC can be easily quantified by electron beam computed tomography (CT) or multi-detector CT (MDCT). CAC is currently a useful marker of subclinical CAD and an independent predictor of cardiovascular events. CAD is a risk factor for HF, but information on the association of CAC scores with HF is still lacking. It is possible that measuring CAC score may identify patients at high risk for heart failure. In this session, I will review clinical significance of measuring CAC score in the setting of cardiovascular disease. Also, I will discuss about the future of assessing CAC score.

Speaker Biography

Satoru Sakuragi, MD, PhD, is an expert in the diagnosis and treatment of cardiovascular diseases, including hypertension, dyslipidemia, atherosclerosis, peripheral arterial disease, and coronary artery disease. He graduated Okayama University Medical School in 1992. He subsequently completed his residency of cardiology at Okayama University Hospital. Then, he obtained his PhD from Okayama University Graduate School of Medicine. After that, he had studied at the Canberra Hospital in Australia as a clinical research fellow for two years. He is a board-certificated physician of the Japanese Cardiology Society, the Japanese Society of Internal Medicine, the Japanese Association of Cardiac Rehabilitation, and the Japanese Association of Cardiovascular Intervention and Therapeutics. He is also a fellow of the Japanese college of Cardiology and the European Society of Cardiology. Dr. Sakuragi is currently the chief of Dep. Of Cardiovascular medicine at Iwakuni Clinical Hospital, Yamaguchi, Japan. His clinical interests include the diagnosis and treatment of ischemic heart diseases. He has especially focused on non-invasive assessment of atherosclerosis and coronary artery disease. He is actively involved in cutting edge research and has published his work in prestigious journals as well as presented his work at several national Cardiology meetings.

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Survival of a 101 year old survivor of myocardial infarction

William E. Feeman
Bowling Green Study, USA

Introduction: There is not a consensus about the safety of statin therapy in the elderly, let alone the oldest of the old.

Purpose: This paper presents a case report of a 75 year old lady who survived an acute myocardial infarction and has been maintained on statin and aspirin therapy, along with a calcium channel blocker for coronary vasodilatation (not hypertension), with no other intervention. She is now 101 and ½ years old, still on medication and free of any clinical complications.

Methods: This is a case report of a single patient and her outcome on optimal medical therapy. This case is unique because it is the only case in the world, to the author's knowledge, of statin therapy in a patient in the eleventh decade of life.

Results: The patient in question sustained an acute myocardial infarction at age 75 years. Her attending physician elected to do nothing in the way of treatment of atherothrombotic disease risk factors, particularly dyslipidemia. Some two years later the patient entered the author's practice. He began the patient on statin therapy, combined with aspirin. Her initial course was marked by hospitalizations for recurrent chest pains, but after a few years with the addition of calcium channel blocker therapy for recurrent angina, the chest pain resolved and has not recurred. The patient is now 101 ½ years old and remains free living in her own home. There have been no other interventions, medical or surgical.

Conclusions: This is a report about the success of optimal medical therapy, including statin therapy with super-statins, in a 101 ½ year old survivor of an acute myocardial infarction. This report shows that such therapy can be effective in control of atherothrombotic disease even in the oldest of the old.

Speaker Biography

William E. Feeman Jr., MD, is a Physician on staff at Wood County Hospital, and in private practice, both in Bowling Green, Ohio. He attended undergraduate school at Ohio State University (1961-1966) and became interested in a career in medicine during that time; prior to his decision to enter medicine he planned to have a career in astronomy. He attended undergraduate medical school at Ohio State University, earning Bachelor of Science in physiology (1961-1966) and medical school at Ohio State University (1966-1970); where he developed an interest in the primary and secondary prevention of atherothrombotic disease. Over the last 26 plus years, he has spent his professional life in medicine perfecting a tool to predict the population at risk of atherothrombotic disease e and to guide therapy to maximally stabilize/reverse that disease if extant. Thus he has founded the Bowling Green Study of the Primary and Secondary Prevention of Atherothrombotic Disease (BGS) to which he is the principal investigator. This study terminated on 4 November 2003. Dr. Feeman has had six major articles published in various science/medical journal. He has had numerous letters to the editor published in various medical journals. All publications relate to the primary and second prevention of atherothromboitc disease. He has presented data at a number of annual scientific assemblies of the American Academy of Family Physicians and at a number of national and international symposia in atherothrombotic disease. Dr. Feeman is the founder of the Association for the Prevention of Atherothrombotic Disease in Northwest Ohio to facilitate the spread of knowledge about this disease.

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PCI post CABG

Ahmed Salah Eldin
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Post CABG recurrent ischemia , are classified into Early & Late according to time of presentation, Each of them has its distinguished ertiology, and mode of management Management depends lagely upon, mode of presentation, either acute or chronic, but medical and interventional techniques are still the options we do have Intervention of such cases depends largely on, number of available grafts, extent and severity of new ischic episode, and location of lesions.Clinical condition of PT, myocardial functions, and viability, and the fully equipped centre with expertise of service providers are all important factors that determine the outcome , morbidity and mortality. The present case was an example of late Post CABG acute ischemia presented with NSTEMI, Hypotension, Cardiogenic shock, recurrent cardiac arrest VT, VF, so, medical hemodynamic support with rapid intervention decision were the only proposed steps that seemed to save PTs life, support PT hemodynamics, and finally resolve the problem.

Speaker Biography

Ahmed Salah, M.D. is an invasive cardiologist at National Heart Insitute , Cairo , Egypt. He has also special interest at ischemic heart failure PTs, and wheather medical management alone or interventions plus medical management could improve cardiac conditions and function and improve mode of life , He worked at many institutions in Egypt , The Egyheart centre for cardiology and cardiac intervention. He received a training on myocardial viability at nuclear department at Technical university Hospital , Munich, Germany. He is now the Head of interventional cardiology department of MD Hospital , a hospital well established since 1956 , at Alkhobar City , Eastern proviance , Saudi Arabia.

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Role of ECMO as advanced life care support in end stage heart disease

Adarsh Kumar
Government Medical College, India

Extracorporeal membrane oxygenation is utilized for providing both cardiac and respiratory support to heart and lungs for mantainence of adequate gas exchange to sustain life. Its main use is in children and adults with advanced respiratory failure like hypercapnaeic respiratory failure with an arterial pH of less than 7.20., in refractory cardiogenic shock, advanced heart failure, cardiac arrest and as a bridge to either cardiac transplantation or placement of a VAD with improved survival rates in these situations. Veno-Venous type of ECMO is used for Respiratory failure and Veno-Arterial type of cardiac failure. In general VA ECMO trials are shorter than V-V trials because of higher risk of thrombus formation in the former. Major complications of ECMO are neurological injury, life threatening bleeding, heparin induced thrombocytopenia (HIT) and problems during cannulation. Its relative contraindications are conditions incompatible with normal life if the person recovers and futility in those who are too sick.

Speaker Biography

Adarsh Kumar has been Professor & Head of cardiology department in GMC Amritsar (India) for the last about 25 years with main field of Research in heart failure and CAD. Has published more than 80 Research papers in different International /National conferences all over the world. Ex President of International college of Cardiology. Awarded gold medal for outstanding work/research in Cardiology all over the world by Health Minister, Govt. of India.

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Cohort study on the association between the AQP7, AQP9 gene polymorphisms in patients with hypertension and the risk of stroke

Quanyong Xiang[1,2], Li Yan[2], Qiushi Wang[2] and **Yu Qin[1]**

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Objectives: To explore the association between the AQP7, AQP9 genes polymorphisms in patients with hypertension and the risk of stroke in Chinese; and the possible gene-gene and gene-environment interactions.

Methods: The stroke cases and the patients with hypertension were recruited from the follow-up cohort study of hypertension which established in 2010 in Jiangsu Province. The patients with stroke for the first time during the past 6 years were the cases groups, the patients with hypertension were the control groups which were chosen according to the inclusion criteria (paired with each stroke case): same gender, the age between ±3 years, the same place of residence, and the rate of case and control was 1:3. Genotyping of 5 SNPs in AQP7 (rs2989924, rs3758269, rs2542743) and AQP9 (rs57139208, rs16939881) was performed by the polymerase chain reaction assay.

Results: The results of single SNP analysis showed that rs2989924 was associated with the risk of stroke in this case-control study, the frequency distribution was statistically significant; compared to AA+AG genotype, GG genotype significantly increased the risk of stroke, with an adjusted OR of 1.741(95% CI: 1.232-2.461). After adjusted confounders, CC+TT genotype of rs3758269 can decreased the risk of stroke, with an adjusted OR of 0.669 (95% CI: 0.450-0.994), compared to CC genotype. Based on the stratified analysis, recessive genotype model of rs2989924 significantly increase the risk of stroke in male, over 60 years old, BMI(kg/m2)≥25, and central obesity in hypertension patients, with an adjusted OR of 2.23 (95% CI:1.32-3.77), 2.20(95% CI:1.41-3.44), 2.35(95% CI:1.45-3.81) and 1.81(95% CI:1.22-2.70). Before adjusted confounders rs3758269 has nothing to do with the stroke, but after adjusted confounders, rs3758269 was associated with decreased risk of stroke in over 60 years old and BMI(kg/m2)≥25, with an adjusted OR of 0.48(95% CI:0.25-0.94) and 0.43(95% CI:0.24-0.77) in dominant genotype model. No gene-gene interaction and linkage disequilibrium were observed.

Conclusions: SNPs rs2989924, rs3758269 were associated with the risk of stroke in Chinese Han population. No association between rs2542743, rs57139208, rs16939881 and the risk of stroke was found.

Speaker Biography

Xiang Quanyong, Professor of Nanjing Medical University, Southeast University, is now working in the Department of Chronic non-communicable Disease Control and Prevention, Jiangsu Province Center for Disease Control and Prevention, China, deputy director of the department. He is a member of Chinese Hypertension Federation. His current main research activities are: 1) monitoring and analyzing of the prevalence of cardiovascular and cerebrovascular diseases, especially the control and prevention of Hypertension; 2) Diabetes control and prevention; 3) control and prevention of the risk factors for non-communicable disease, especially for Tobacco Control. He has published several papers in International Journal, Such as: Arch Toxicol, J Hum Genet, Oncotarget, J Diabetes Res, and so on.

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Genetic susceptibility to rheumatic heart disease in three African populations: Egypt, Ethiopia and Mozambique

Helen Befekadu, Shehab Anwer, Anna Olga Mocumbi, `Yasmin Aguib and **Magdi H. Yacoub**
Addis Ababa University, Ethiopia

Introduction: Rheumatic heart disease (RHD) is a leading cause of incapacity and premature death in Africa among young population. RHD is acquired as a long term outcome of acute rheumatic fever (ARF) that follows Group A β-haemolytic streptococcal (GAS) infections. RHD appears to have a faster and more malignant course among different African populations.

Hypothesis: Higher incidence and possibly severity of RHD in the African population can be contributed to by genetic factors. Detecting these factors may help in prevention and management of the disease by detecting novel therapeutic targets.

Objectives: To identify genetics variants affecting susceptibility to RHD To correlate the genetic risk factors to the clinical phenotype and understand the heterogeneity of the genetic factors in three African populations.

Methods: In a prospective case-control study, 2000 participants will be recruited from three African countries: Ethiopia, Egypt, and Mozambique. Cases group will include 400 patients diagnosed with RHD irrespective of age limitation and 300 non-cardiac controls will be recruited from the general population. DNA samples will be collected from the participants to execute next generation sequencing, a combination of whole genotyping array to their DNA samples, targeting mainly polymorphism patterns of related genes, e.g. IL1RA,αTGFβandTNFIL -10, and their pathophysiological impact on immune response. High resolution analysis will be applied to correlate the participant's genetic features and pre-existing clinical data's as some studies have shown a relation between the genetic variability and expected outcome. The control group genetics and clinical history will be compared to the cases result in order to understand the real impact of newly discovered genetic patterns on immune response and RHD disease progression. Finally, suggested hypothesis will be justified based on conditional logistic regressions.

Expected value of the study: Several previous studies have strongly suggested a relationship between genetic factors and RHD A systematic review and meta-analysis of 435 twin pairs from six independent studies was showed that ARF high heritability, estimated at 60% across all the studies (Engel et al., 2011). The RHD Gen network and molecular epidemiology of streptococcus pyogenes (Bongani., 2016) is currently conducting a project under H3 Africa to identify genetic susceptibility & resistance to RHD. Another recent study on RHD genetics across the pacific regions identify a novel susceptibility signal in the immunoglobulin heavy chain (IGH) is associated with a 1.4-fold increase in the risk of RHD (Tom Parks et al.,2017). The current proposal aims to extend these studies by providing more data, specific to three African populations, using state of the art Next generation sequencing and collaborating with colleagues working in the same field in an attempt to enhance efforts of fighting the epidemics of RHD across the developing countries.

Speaker Biography

Helen Befekadu is medical doctor at Addis Ababa University Cardiac center Ethiopia. She received doctor of medicine at the age 23 and specialized in pediatric and child health and master of public health with great distinction from same university at the age of 26years in 2015 enable to get the academic rank for assistant professor. Following, currently she is attending a joint fellowship program in pediatric cardiac intensive care and cardiology in Egypt, Magdi yacoub heart foundation since November 2016. Her international experience includes presenting posture in European society of Cardiology 2016, Rheumatic heart disease conference in Cairo 2107, and Cardio Alex conference in 2017. In addition to the clinical studies, she is highly dedicated and passionate in research activities / evidence-based medicine particularly focus to genetics of cardiovascular disease in general and in the process of application for Rheumatic heart disease genetics PhD program after completion of joint clinical fellowship studies.

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Concerns about the use of non-HDL cholesterol as a lipid predictor

William E. Feeman
Bowling Green Study, USA

Introduction: Non-high-density lipoprotein (non-HDL) cholesterol is the sum of low-density lipoprotein (LDL) cholesterol and very-low-density lipoprotein (VLDL) cholesterol, and is usually approximated by the total cholesterol minus HDL-cholesterol. The National Lipid Association (NLA) has advocated the use of non-HDL cholesterol as its favored lipid predictor. Cut-off points are based on LDL cholesterol values, with a lower end at 100 mg/dL (2.50 mmol/L) and a higher end at 190 mg/dL (4.75 mmol/L), adding 30 mg/dL (0.75 mmol/L) to keep triglyceride (TG) levels <150 mg/dL (1.70 mmol/L).

Objectives: The author will demonstrate that the use of non-HDL cholesterol has not been fully considered.

Methods: The author will examine a general population lipid database to demonstrate the frequency of distribution of non-HDL cholesterol in the part of the population that was known to have developed a form of atherothrombotic disease (ATD) and in the part that was not known to have done so. The effect of stratifying each non-HDL cholesterol quintile in terms of another lipid predictor that does not involve VLDL-cholesterol or TG will be demonstrated. The other risk predictor is the cholesterol retention fraction (CRF) defined as (LDL-HDL)/LDL.

Findings: All non-HDL cholesterol quintiles above the lowest quintile had higher frequencies in the ATD population than in the non-ATD population. The highest two quintiles had frequencies in the ATD population that are 2.5-times as high as those in the non-ATD population, whereas in the middle two quintiles, the frequency in the ATD population was minimally higher than in the non-ATD population. In the lowest quintile, the frequency is much higher in the non-ATD population than in the ATD population. At any nonHDL cholesterol quintile, the average age of ATD onset depends on cigarette smoking (not discussed here) and the CRF. Higher CRF levels equate to an earlier average age of ATD onset and lower levels of CRF equate to a later onset. A 75-year-old male who was a hypertensive diabetic and a former smoker was not on statins because of low lipid levels, had clean arteries on angiography, whereas a 45-year-old normotensive, non-smoking patient with severe dyslipidemia (obtained at first encounter) had a massive stroke due to carotid stenosis. Both had non-HDL cholesterol levels in the intermediate ATD risk quintiles.

Conclusions: Non-HDL cholesterol is not the optimal predictor of the population at risk of atherothrombotic disease and its use should be reconsidered.

Speaker Biography

William E Feeman is a Physician on staff at Wood County Hospital, and in private practice, both in Bowling Green, Ohio. He has attended Undergraduate school at Ohio State University (1961-1966) and became interested in a career in Medicine during that time; prior to his decision to enter Medicine, he planned to have a career in Astronomy. He has earned his Bachelor of Science in Physiology (1961-1966). Over the last 26 plus years, he has spent his professional life in medicine perfecting a tool to predict the population at risk of atherothrombotic disease e and to guide therapy to maximally stabilize/reverse that disease if extant. He has six major articles published in various science/medical journal. He has numerous letters to the editor published in various medical journals. All publications relate to the primary and second prevention of atherothrombotic disease. He has presented data at many annual scientific assemblies of the American Academy of Family Physicians and at several national and international symposia in atherothrombotic disease. He is the founder of the Association for the Prevention of Atherothrombotic Disease in Northwest Ohio to facilitate the spread of knowledge about this disease.

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Clinical profile of acute coronary syndrome in tertiary care hospital of northern India, Punjab

Nirankar Singh Neki and **Jaswinder Singh**
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Background: Coronary artery disease is a major cause of morbidity and mortality across the globe. Although rich data is available regarding clinical profile of acute coronary syndrome (ACS) patients in the western world, very few studies have been done in Punjab population in India. Our study will contribute towards filling this gap.

Aim: To study clinical profile, risk factors, angiographic findings and immediate and short term mortality statistics in ACS patients of Punjab, India.

Materials and Methods: It was a prospective observational study done on the ACS patients who were admitted to Guru Nanak Dev Hospital/ Government Medical College Amritsar between the period from July 2016 to June 2017.

Results: In this study 393 patients with ACS were recruited. Out of these 299 (79.08%) were males and 94 (23.92%) were females. The mean age of our population was 64.52 ± 11.04. Hypertension was present as a risk factor in 301 patients (76.59%), 263 patients (66.92%) were smokers, 234 (61.83%) had BMI more than 25, while 35 patients (4.33%) had a family member with was diagnosed with ACS. 55 patients (31.99%) were classified in advanced Killip class (Class 3 or 4) at the time of presentation. 263 patients (66.92%) had ST segment elevation myocardial infaction (STEMI), 113 (28.75%) had non- ST segment elevation myocardial infaction (NSTEMI), while 17 (4.33%) patients were diagnosed to have unstable angina(UA). Most patients had involvement of single vessel disease (N=230, 58.52%). 73 patients (18.58%) patients had double vessel disease, 44 patients (11.20%) patients had triple vessel disease, while 7 patients (1.78%) had left main vessel involvement. Diabetic patients had more chances of mortality as compared to non diabetics during initial hospital admission (N= 21, 12.73% Vs N=13, 5.70%, p value <0.05) as well as during 30 day follow up period (N= 11, 7.64% Vs N=7. 3.26%, p value <0.05).

Conclusion: LAD was most commonly involved vessel, followed by LCX and RCA respectively, Hypertension and smoking were two most commonly associated risk factors with ACS. Diabetes in ACS patients leads to more aggressive course of disease and leads to higher mortality as compared to non-diabetic ACS patients.

Speaker Biography

Nirankar Singh Neki, MBBS, MD(Internal Medicine) is working as Professor and Head of Medicine unit 2 at Govt. Medical College Amritsar, India. He has teaching experience of 30 years as undergraduate teacher and 28 years as postgraduate teacher. He has an entry in the Limca Book of Records of 2015 for being the recipient of four Fellowships of the Royal College of Physicians (Edinbourgh, Glasgow, Ireland and London). In total he has 38 fellowship awards with different institutes. He is receipient of FACC(USA), FAHA(USA), FESC, FACP(USA),and holds name in cardiology .Dr. Neki holds 13 different Oration Awards and has been a named author in 365 scientific publications, including book chapters. He is also Editor in Chief, Senior Editor, Editor, Section Editor, and Associate Editor of more than 13 national and international medical journals. Dr. Neki has been a Visiting Professor at James Cook University Hospital in Durham, UK and at the University of Manitoba's Institute of Cardiovascular Sciences at St. Boniface Hospital &Research Centre, Winnipeg, Canada.

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Comparative study of Standard Median Sternotomy (SMS) vs Right Anterolateral Thoracotomy (RALT) for mitral valve replacement

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Objective: to compare the outcome in mitral valve replacement done through standard median sternotomy versus right anterolateral thoracotomy.

Methodology: Retrospective study from Jan 2010 to Dec 2016 at Department of Cardiovascular Surgery, Govt. Lady Reading Hospital Peshawar, Pakistan. Total 281 cases of mitral valve replacement (MVR) done among them 229 were operated through Standard Median Sternotomy (SMS) and 157 were operated through Right Anterolateral thoracotomy (RALT). Ethical committee approval was taken. An informed consent was taken for all patients. Age, sex, mortality, total cardiopulmonary bypass CPB time, time to establish CPB, mediastinal /chest drainage, post op blood transfusion, total hospital stay, ICU stay were analyzed and compared in the two groups. Statistical analysis done by SPSS version 17 and paired t test were applied to get p value. P value less than 0.05 was considered significant.

Results: Females were predominant in both the groups (SMS 73.03 % and RALT 77.07 %). Mean body surface area was 1.34 meter square. Mean age was 28.65 years in SMS and 26.42 years in RALT. There was no significant difference in mortality, cardiopulmonary bypass time, cross clamp time, ventilator time, in the two groups. There was significant difference in post op blood transfusion, chest drainage, ICU stay and in total post op hospital stay.

Conclusion: Sternum Sparing Mitral Valve Replacement can be done safely in selected cases. It gives better cosmetic results in females. RALT approach reduces hospital stay of patients and he can return to work early. Besides less pain, shorter skin incision and lower blood loss, it has more advantages as reduced sternal infection and sternal disruption.

Speaker Biography

Hamid Ahmad is graduate in Medicine & surgery from Khyber Medical College, Peshawar Pakistan. He started his practical life in Basic health unit and then worked in Khyber medical college as lecturer in Biochemistry. He opted cardiac surgery and working in Department of cardiovascular surgery in Lady Reading Hospital Peshawar. He has special interest in Adult cardiac surgery. He play pivotal role in development of his department under the supervision of his Professor Dr Riaz Anwar Khan. He is member of Pakistan Society of Cardiovascular and Thoracic Surgeons and worked as Public Relation secretary and Joint Secretary. He attended many national and international conference and presented papers. He has hobby of Mountaineering & Hiking.

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A novel CYP7A1 polymorphism is associated with the low-density lipoprotein cholesterol response to atorvastatin

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Backgrounds and aims: Cholesterol 7α hydroxylase encoding by gene CYP7A1 is the initial and rate-limiting step in the classical bile acid synthesis pathway. Atorvastatin can markedly upregulate the mRNAs of bile acids synthetic enzymes CYP7A1 in the liver to increase fecal bile acid excretion. We tempt to investigate the association between a novel CYP7A1 polymorphism rs8192875 and reduction of lipid levels response to atorvastatin in Chinese patients with coronary artery disease.

Methods: Of 169 patients with coronary artery disease were treated with atorvastatin for one month. Lipid profiles, including triglycerides(TGs), total cholesterol(TC), low-density lipoprotein cholesterol(LDL-C), and high-density lipoprotein cholesterol(HDL-C) were determined before and after treatment. Rs8192875 genotypes were assayed with the iPLEX assay in conjunction with the MassARRAY platform. We performed independent sample t test or Kruskal-Wallis test to evaluate the effects of SNP.

Results: After one month of atorvastatin therapy, the lipid levels decreased significantly. Compared with AG genotype, the GG genotype of rs8192875 achieved a greater reduction of LDL-C level (0.694±0.701 vs. 0.136±0.401 mmol/l, p=0.0056; 24.090±23.104% vs. 2.182±20.809%, p=0.0031); and a similar pattern of efficacy appears to TC (0.808±0.791 vs. 0.302±0.381 mmol/l, p=0.0208; 16.410±15.370% vs. 6.936±9.711%, p=0.0341).The genotypes had no significant difference on TGs or HDL cholesterol-lowering response to atorvastatin.

Conclusions: A novel CYP7A1 exon variant rs8192875 is significantly associated with reducing LDL-C and TC level response to atorvastatin.

Speaker Biography

Jing Chen completed her Master's degree in Epidemiology and Hygenic statistics from School of Public Health, Peking University Health Science Center in 2016. She participated in a research study at Shi Mao Group Charity Hospital Research as an investigator. Her other research experiences include- National Free Preconception Health Examinaton Project (NFPHEP) during, The Family Based Cohort Study on The Common Non-communicable Chronic Diseases of the Population in The Rural Community of Northern China during and WHO project on "To promote the quality of Chinese maternal and child health annual report research".

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