Atherothrombosis And Coronary Artery Disease

#atherothrombosis #coronary artery disease #CAD symptoms #heart artery plaque #blood clots in arteries

Atherothrombosis and Coronary Artery Disease (CAD) refer to the critical cardiovascular conditions where plaque buildup within arteries leads to the formation of blood clots, severely impairing blood flow to the heart. This process significantly elevates the risk of heart attacks, strokes, and other serious cardiac events, making early understanding and management vital for cardiovascular health.

Atherothrombosis and Coronary Artery Disease

Written by the world’s foremost authorities, this volume provides comprehensive coverage of current approaches to the prevention, diagnosis, and management of atherothrombosis and its coronary and noncoronary complications. This edition has been thoroughly updated, sharply focused on clinical information, and trimmed to one manageable volume. Coverage begins with a review of risk factors and prevention, emphasizing lipid abnormalities, hypertension, smoking, diabetes, and obesity. Subsequent sections examine the pathogenesis of atherosclerosis, markers and imaging, acute coronary syndromes, chronic stable angina, and noncoronary atherothrombosis. Clinical presentations, medical management, and the latest interventional strategies are included.

Atherothrombosis in Clinical Practice

Atherothrombosis refers to the coupling of atherosclerosis and thrombosis, and it is the leading cause of the majority of preventable deaths in the modern world. The medical, economic, social, and societal consequences or atherothrombosis are enormous, which make it a dynamic area for development of new pharmacologic agents. Atherothrombosis in Clinical Practice focuses upon the many clinical manifestations of atherothrombosis and therapies that presently exist, with a focus on evolving therapeutic approaches. First, atherothrombosis is defined and the epidemiology is explored. Then, the specific manifestations of atherothrombosis (coronary artery disease, valvular heart disease, cerebrovascular disease, atrial fibrillation, peripheral artery disease) are concisely covered by distinguished experts in the field. Next, specific medications are discussed, with an emphasis on innovative therapies and investigational agents including experimental lipid-modifying, anti-inflammatory, antiplatelet, and anticoagulant agents. State-of-the-art treatment of hypertension and diabetes is described succinctly. Lifestyle modification, medical therapies, and where appropriate, invasive modalities are discussed. Controversies in areas such as cholesterol management and glycemic control are summarized. Part of the Oxford American Cardiology Library, this handbook provides a practical, evidence-based summary of the condition and the most up-to-date research to equip clinicians in managing this common clinical problem.

Risk Factors in Coronary Artery Disease

Promoting developments in the diagnosis, prevention, and treatment of coronary artery disease, this reference furnishes the latest information on new and emerging risk factors for atherothrombotic vascular disorders-analyzing lipid-related and psychosocial risk factors, the genetic aspects of disease, the potential role of infection and inflammatio

Atherothrombosis and Coronary Artery Disease - Indian Edition

Atherosclerosis is a subject of enormous contention for cardiologists and in general for all medical doctors. With this publication we have given you a concise "state-of-the-art" look at the world of atheroma. Many other elements could be included and so it is only a brief analysis of "today" (the preventive medicine era) and "tomorrow" (transforming the cure medicine era into the care medicine era) but also remembering "yesterday" (the ex-cathedra medicine era). Let's hope our arteries are free from atherosclerotic events: have a good read!

Atherosclerosis

Atherothrombosis has reached pandemic proportions worldwide. It is the underlying condition that results in events leading to myocardial infarction, ischemic stroke and vascular death. As such, it is the leading cause of death worldwide manifested mainly as cardiovascular/cerebrovascular death. The complex and intimate relationship between atherothrombosis and traditional and novel risk factors is discussed in the following chapters of Traditional and Novel Risk Factors in Atherothrombosis - from basic science to clinical and therapeutic concerns. Beginning with pathology and pathophysiology of atherothrombosis, plaque rupture/disruption, this book continues with molecular, biochemical, inflammatory, cellular aspects and finally analyzes several aspects of clinical pharmacology.

Traditional and Novel Risk Factors in Atherothrombosis

Appreciation of the importance of platelets and coagulation factors in therothrombotic events has led to the widespread use and continuous development of new antithrombotic agents. This field of cardiovascular pharmacology has advanced at a very rapid rate. Understanding the basic principles of atherothrombosis as well as the pharmacological agents currently available or under clinical development are key to the successful treatment of patients with atherothrombotic manifestations, particularly coronary artery disease. Clinical Guide to the Use of Antithrombotic Drugs in Coronary Artery Disease presents the work of internationally renowned contributors who examine pharmacological principles, indications for use, and pitfalls of antithrombotic agents most commonly utilized in treating patients with coronary artery disease. They also describe special clinical scenarios which may call for a multi-pharmacological approach or which demonstrate various undesired effects of antithrombotic agents.

Clinical Guide to the Use of Antithrombotic Drugs in Coronary Artery Disease

Written by the world's foremost authorities, this volume provides comprehensive coverage of current approaches to the prevention, diagnosis, and management of atherothrombosis and its coronary and noncoronary complications. This edition has been thoroughly updated, sharply focused on clinical information, and trimmed to one manageable volume. Coverage begins with a review of risk factors and prevention, emphasizing lipid abnormalities, hypertension, smoking, diabetes, and obesity. Subsequent sections examine the pathogenesis of atherosclerosis, markers and imaging, acute coronary syndromes, chronic stable angina, and noncoronary atherothrombosis. Clinical presentations, medical management, and the latest interventional strategies are included.

Atherosclerosis and Coronary Artery Disease

Stroke is a major cause of death and the major cause of adult neurological disability in most of the world. Despite its importance on a population basis, research into the genetics of stroke has lagged behind that of many other disorders. However, the situation is now changing. Anincreasing number of single gene disorders causing stroke are being described, and there is growing evidence that polygenic factors are important in the risk of apparently "sporadic" stroke.Stroke Genetics provides an up-to-date review of the area, suitable for clinicians treating stroke patients, and both clinical and non-clinical researchers in the field of cerebrovascular disease. The full range of monogenic stroke disorders causing cerebrovascular disease, including ischaemicstroke, intracerebral haemorrhage,

aneurysms and arteriovenous malformations, are covered. For each, clinical features, diagnosis, and genetics are described. Increasing evidence suggest that genetic factors are also important for the much more common multifactorial stroke; this evidence isreviewed along with the results of genetic studies in this area. Optimal and novel strategies for investigating multifactorial stroke, including the use of intermediate phenotypes such as intima-media thickness and MRI detected small vessel disease are reviewed. The book concludes by describing apractical approach to investigating patients with stroke for underlying genetic disorders. Also included is a list of useful websites.

Stroke Genetics

Atherosclerosis: Clinical Perspectives Through Imaging is aimed at practicing clinicians and relies on didactic tabular and bullet points and a host of fine imagery describing the common features of the imaging of atherosclerosis, enabling the reader to understand more about the advantages and limitations of each modality in investigating athersclosis. Edited by and contributed to by a host of international experts in cardiac imaging, this book is a must read by all who image the heart.

Atherosclerosis: Clinical Perspectives Through Imaging

Atherosclerosis and thrombosis are a major source of morbidity and mortality in the modern world. Great advances have been made in the past decades in our understanding of the pathophysiology of atherosclerosis and thrombus formation. This book offers a broad, contemporary review of atherosclerotic processes, with the latest research advances on inflammation and hypercoagulability that lead to thrombosis. In addition, experimental protocols are included, by which atherosclerotic processes are studied, providing the reader with the information necessary to understand the complexity of the disease process and the current experimental methodology in finding new answers that would help in the diagnosis, prevention and treatment of atherosclerotic disease.

Thrombosis, Atherosclerosis and Atherothrombosis

Edited by Valentin Fuster, former Chairman of the American Heart Association's Committee on Vascular Lesions, Assessing and Modifying the Vulnerable Atherosclerotic Plaque explores the cutting-edge developments in a steadily advancing field. This monograph is a valuable multidisciplinary resource, written by experts in the fields of mechanical and electrical engineering, pathology, neurology, imaging, clinical and vascular biology, physics, radiology and surgery. The book's nineteen chapters and five transcribed Panel Discussions provides a wealth of information on the identification and treatment of atherosclerotic plaques, including the latest diagnostic applications of numerous imaging techniques, the reasons for selecting a particular method, and what can be learned from the imaging results. Important insights into the structural and cellular components of vulnerable plaque are presented, as well as an examination of factors/activities that trigger thrombosis.

Assessing and Modifying the Vulnerable Atherosclerotic Plaque

New updated edition first published with Cambridge University Press. This new edition includes 29 chapters on topics as diverse as pathophysiology of atherosclerosis, vascular haemodynamics, haemostasis, thrombophilia and post-amputation pain syndromes.

Mechanisms of Vascular Disease

The trusted landmark cardiology resource thoroughly updated to reflect the latest clinical perspectives Includes DVD with image bank Through thirteen editions Hursts the Heart has always represented the cornerstone of current scholarship in the discipline. Cardiologists, cardiology fellows and internists from across the globe have relied on its unmatched authority breadth of coverage and clinical relevance to help optimize patient outcomes. The thirteenth edition of Hursts the Heart continues this standard-setting tradition with 19 new chapters and 59 new authors, each of whom are internationally recognized as experts in their respective content areas. Featuring an enhanced reader-friendly design the new edition covers need-to-know clinical advances as well as issues that are becoming increasingly vital to cardiologists worldwide. As in previous editions you will find the most complete overview of cardiology topics available plus a timely new focus on evidence-based medicine health outcomes and health quality. New Features: 1548 full-color illustrations and 578 tables. Companion DVD with image bank includes key figures and tables from the text.

Hurst's the Heart

This is an unusually comprehensive 2001 account of the broad range of medical implications of homocysteine.

Sudden Coronary Death

This book is a comprehensive and richly-illustrated guide to cardiac CT, its current state, applications, and future directions. While the first edition of this text focused on what was then a novel instrument looking for application, this edition comes at a time where a wealth of guideline-driven, robust, and beneficial clinical applications have evolved that are enabled by an enormous and ever growing field of technology. Accordingly, the focus of the text has shifted from a technology-centric to a more patient-centric appraisal. While the specifications and capabilities of the CT system itself remain front and center as the basis for diagnostic success, much of the benefit derived from cardiac CT today comes from avant-garde technologies enabling enhanced visualization, quantitative imaging, and functional assessment, along with exciting deep learning, and artificial intelligence applications. Cardiac CT is no longer a mere tool for non-invasive coronary artery stenosis detection in the chest pain diagnostic algorithms; cardiac CT has proven its value for uses as diverse as personalized cardiovascular risk stratification, prediction, and management, diagnosing lesion-specific ischemia, guiding minimally invasive structural heart disease therapy, and planning cardiovascular surgery, among many others. This second edition is an authoritative guide and reference for both novices and experts in the medical imaging sciences who have an interest in cardiac CT.

Homocysteine in Health and Disease

The authoritative clinical handbook promoting excellence and best practice Cardiovascular Prevention and Rehabilitation in Practice is a comprehensive, practitioner-focused clinical handbook which provides internationally applicable evidence-based standards of good practice. Edited and written by a multidisciplinary team of experts from the British Association for Cardiovascular Prevention and Rehabilitation (BACPR), this book is invaluable for practitioners helping people with heart disease return to health. The text provides an overview of research findings, examines the core components of cardiac rehabilitation, and discusses how to support healthier lifestyles and reduce the risks of recurrence. Now in its second edition, this textbook has been fully revised to incorporate recent clinical evidence and align with current national and international guidelines. Increased emphasis is placed on an integrated approach to cardiac rehabilitation programmes, whilst six specified standards and six core components are presented to promote sustainable health outcomes. Describes how cardiovascular prevention and rehabilitation programmes can be delivered to meet standards of good practice Covers a broad range of topics including: promoting health behaviour change to improve lifestyle risk factors, supporting psycho-social health, managing medical risk factors, and how to develop long-term health strategies Emphasises the importance of early programme commencement with assessment and reassessment of patient goals and outcomes, and gives examples of strategies to achieve these Discusses the role of programme audit and certification of meeting minimum standards of practice Looks to the future and how delivery of cardiovascular prevention and rehabilitation programmes internationally will need to meet common challenges Cardiovascular Prevention and Rehabilitation in Practice is an indispensable resource for all health professionals involved in cardiac rehabilitation and cardiovascular disease prevention.

CT of the Heart

A fully integrated view of the medical and surgical aspects of both vascular and cardiovascular disease. Covering the complete spectrum of angiology, from basic physiologic principles to phlebology, this is the only text of its kind, and will thus be a must for the libraries of cardiologists and cardiovascular surgeons alike.

Cardiovascular Prevention and Rehabilitation in Practice

This report considers the biological and behavioral mechanisms that may underlie the pathogenicity of tobacco smoke. Many Surgeon General's reports have considered research findings on mechanisms in assessing the biological plausibility of associations observed in epidemiologic studies. Mechanisms of disease are important because they may provide plausibility, which is one of the guideline criteria for assessing evidence on causation. This report specifically reviews the evidence on the potential

mechanisms by which smoking causes diseases and considers whether a mechanism is likely to be operative in the production of human disease by tobacco smoke. This evidence is relevant to understanding how smoking causes disease, to identifying those who may be particularly susceptible, and to assessing the potential risks of tobacco products.

Textbook of Angiology

"What is this cholesterol?" In this book entitled "Cholesterol- Good, Bad, and the Heart" now you got the answers given by the experts in the field. Moreover, you can explore more by reading the references/citations given in the articles of each chapter. It is still an emerging field and lot more is being discovered. You will be amazed how much knowledge is already there in this book on cholesterol. You will realize that cholesterol is an essential and extremely important building block of cell membranes and thus serves vital functions in the body. I believe this book will be incredibly powerful and useful in teaching to give new perspectives on cholesterol.

How Tobacco Smoke Causes Disease

Presenting further studies in the prevention and treatment of coronary artery disease, this book brings together the knowledge accrued in the past decade concerning the role of immunity in the initiation and perpetuation of atherosclerosis. A strong group of international contributors summarize the diverse aspects of the interrelationship between the immune system and atherosclerosis.

Cholesterol

Contributors to this book have reviewed research from the fields of metabolic syndromes in view of their own research. The chapters cover the neural mechanisms of food intake and proposed factors related to obesity. The influences of the intake of sugar and lipids are also discussed. The relationships between cancer and venous thromboembolism in connection with obesity are discussed. Omega (É)3 fatty acids and trans-fatty acids are risks of cardiovascular diseases. Comparison of plasma levels of trans-fatty acids indicated that industrially produced trans-fatty acids are higher in American than Japanese men. Hopefully, the book provides information that readers want to obtain in the fields of food intake and metabolic syndromes.

Atherosclerosis and Autoimmunity

This handbook features in-depth reviews of disability-adjusted life years (DALYs), quality-adjusted life years (QALYs), quality of life and financial measures for over 120 diseases and conditions. Its editors have organized this critical information for maximum access and ease of use, with abstracts, definitions of key terms, summary points, and dozens of figures and tables that can enhance the text or stand alone.

New Insights Into Metabolic Syndrome

This title will be presented as highly practical information pn pharmaceutical antiplatelet and anticoagulation therapy, written in a quick-access, no-nonsense format. The emphasis will be on a just-the-facts clinical approach, heavy on tabular material, light on dense prose. The involvement of the ISCP will ensure that the best quality contributors will be involved and establish a consistent approach to each topic in the series. Each volume is designed to be between 120 and 250 pages containing practical illustrations and designed to improve understand and practical usage of cardiovascular drugs in specific clinical areas.

Handbook of Disease Burdens and Quality of Life Measures

Biology of the Arterial Wall is intended as a general reference text concerned with the biology of the vascular cells and the blood vessel wall under physiological and pathological conditions. One of the major functions of the arteries is to maintain a continuous blood flow to the organs whatever the pressure conditions, thanks to the vasomotor tone of the smooth muscle cells. Great advances have been made over the last decade in the understanding of the endothelial cells as integrators and transducers of signals originating from the blood stream. The pluripotent control functions of the endothelial cells in the vessel wall are now well recognized. A review of endothelial functions and dysfunctions is presented. Cell biology and molecular genetic studies have now identified an array of molecules elaborated by endothelial cells and vascular smooth muscle cells and by the blood-borne

elements which interact with artery cells, defending the artery against injury and modulating evolving abnormal processes. Molecules which induce or inhibit endothelial and/or smooth muscle cells are currently under great scrutiny. Angiogenesis, which plays a major role in tumor growth, but may also be beneficial as a healing process in muscle ischemia, is discussed. Apoptosis, or programmed cell death, has only recently been recognized as an essential process in blood vessel modeling and remodeling. An overview of apoptosis in the vascular system is presented. It is increasingly evident that the adjustments of the blood vessel wall are made in the presence of deforming disease processes such as hypertension and atherosclerosis. The second part of the book is concerned with the blood vessel wall in disease conditions. Several chapters review the role of the vessel and vascular cells in inflammation, and vascular remodeling during arterial hypertension and aging. One chapter is devoted to atherogenesis, atheroma and plaque instability, followed by the pathophysiology of post-angioplasty restenosis, which is a crucial issue in modern interventional cardiology.

Antiplatelet and Anticoagulation Therapy

Clinical Lipidology, a companion to Braunwald's Heart Disease, is designed to guide you through the ever-changing therapeutic management of patients with high cholesterol levels. From basic science to pathogenesis of atherothrombotic disease, to risk assessment and the latest therapy options, this medical reference book offers unparalleled coverage and expert guidance on lipidology in a straight-forward, accessible, and user-friendly style. Get authoritative guidance from some of the foremost experts in the field. Easily access key content with help from treatment algorithms. Access options and evidence-based solutions for every type of patient scenario, as well as the latest clinical guidelines and clinically relevant evidence on risk assessment, special patient populations, and therapy, including recently approved and experimental therapies. Remain at the forefront of the cardiology field with up-to-date chapters on treatment guidelines; diet, exercise, and weight loss; pharmacologic therapies such as statins, omega-3 fatty acids, and combination therapy; evolving targets of therapy such as PCSK9 inhibition, CETP inhibition, and inflammation Prepare for special patient populations such as children and adolescents; women and the elderly; transplant recipients; HIV patients; and those with chronic renal disease, familial hypercholesterolemia, other severe hypercholesterolemias, diabetes, or other metabolic syndromes. Take advantage of a format that follows that of the well-known and internationally recognized Braunwald's Heart Disease. Expert Consult eBook version included with purchase.

Biology of the Arterial Wall

This open access book not only describes the challenges of climate disruption, but also presents solutions. The challenges described include air pollution, climate change, extreme weather, and related health impacts that range from heat stress, vector-borne diseases, food and water insecurity and chronic diseases to malnutrition and mental well-being. The influence of humans on climate change has been established through extensive published evidence and reports. However, the connections between climate change, the health of the planet and the impact on human health have not received the same level of attention. Therefore, the global focus on the public health impacts of climate change is a relatively recent area of interest. This focus is timely since scientists have concluded that changes in climate have led to new weather extremes such as floods, storms, heat waves, droughts and fires, in turn leading to more than 600,000 deaths and the displacement of nearly 4 billion people in the last 20 years. Previous work on the health impacts of climate change was limited mostly to epidemiologic approaches and outcomes and focused less on multidisciplinary, multi-faceted collaborations between physical scientists, public health researchers and policy makers. Further, there was little attention paid to faith-based and ethical approaches to the problem. The solutions and actions we explore in this book engage diverse sectors of civil society, faith leadership, and political leadership, all oriented by ethics, advocacy, and policy with a special focus on poor and vulnerable populations. The book highlights areas we think will resonate broadly with the public, faith leaders, researchers and students across disciplines including the humanities, and policy makers.

Clinical Lipidology

In the past two decades a number of studies have shown that abnormalities in the function and structure of coronary microcirculation can be detected in several cardiovascular diseases. On the basis of the clinical setting in which it occurs, coronary microvascular dysfunction (CMD) can be classified into four types: CMD in the absence of any other cardiac disease; CMD in myocardial diseases;

CMD in obstructive epicardial coronary artery disease; and iatrogenic CMD. In some instances CMD represents an epiphenomenon, whereas in others it represents an important marker of risk or may contribute to the pathogenesis of myocardial ischemia, thus becoming a possible therapeutic target. This book provides an update on coronary physiology and a systematic assessment of microvascular abnormalities in cardiovascular diseases, in the hope that it will assist clinicians in prevention, detection and management of CMD in their everyday activity.

Health of People, Health of Planet and Our Responsibility

The Director of this study, Abraham Kagan, has comprehensively summarized the design and main finndings of the study in this book. The Honolulu Heart Program compared and contrasted ethnic Japanese men living in different cultural environments--Honolulu and mainland Japan--assessed their relative risk factors. The study supported many of the existing views on risk factors but also showed suprising trends. One of the trends shows moderate alcohol consumption is a preventative factor.
In recent years the risk factors for cardiovascular diseases have become common knowledge. The recently completed Honolulu Heart Program is the largest targeted study to evaluate scientifically such risk factors.

Coronary Microvascular Dysfunction

This volume is the first comprehensive treatise on homocysteine to treat the topic from the basic biochemical, metabolic, genetic, and dietary determinants to disease relationships, including concepts of pathogenesis. In addition, the public health implications of these associations are described. To date, evidence strongly supports the hypotheses that Hyperhomocysteinemia is a strong independent determinant of vascular disease and Many cases of hyperhomocysteinemia are amenable to homocysteine-lowering treatment with B-vitamins.£/LIST£ The strength of this evidence is prompting discussion of large-scale homocysteine-lowering interventions. Against this background of growing recognition of the importance of homocysteine as a factor in coronary artery disease, cerebrovascular disease, stroke, and peripheral vascular disease, the editors conceived of a state-of-the-art monograph on homocysteine and its relationships to disease. The contributors would be those scientists who, in fact, had written the history of this field of study over the past third of a century. The editors invited the leading investigators in the world to contribute chapters in their own areas of expertise to this monograph and to deliver those papers at the first International Meeting on Homocysteine in Ireland, which has emerged as an important study center and where the first cases of homocystinuria were reported more than three decades ago.

Honolulu Heart Program

Neurosonology is non-invasive, portable, and has excellent temporal resolution, making it a valuable and increasingly popular tool for the diagnosis and monitoring of neurological conditions when compared to other imaging techniques. This guide looks beyond the use of neurovascular ultrasound in stroke to encompass a wide range of other neurological diseases and emergencies. It offers a practical approach to the examination of patients, interpretation of ultrasound studies, and the application of neurosonology to the development of management and treatment strategies. Each chapter incorporates a thorough and clear procedural methodology alongside scanning tips for trainees; this step-by-step approach is further enhanced by example images and focused diagnostic questions. Authored and edited by international experts, this practical manual of neurosonology is an invaluable resource for neurologists, neurosurgeons, intensivists, radiologists, and ultrasonographers.

Human Hemostasis

This well-structured textbook offers essential knowledge on the vascular system. The reader will learn the properties, basic cellular mechanisms and development of the different parts of the vascular system (including the heart), gain knowledge on vascular and related diseases, and will be made familiar with common and most current methods and techniques applied to analyze the vascular system in patients, in animal models, and ex vivo. This book is based on a PhD Course for students from various bioscientific backgrounds given at the Medical University of Vienna, and it will be a valuable resource for Master s Students in vascular biology and biomedicine in general and a helpful tool for young researchers world-wide wishing to gain or refresh their knowledge in this field.

Homocysteine Metabolism: From Basic Science to Clinical Medicine

Today, in the era of the statins (cholesterol lowering drugs), there is no longer any doubt about the value of lowering blood cholesterol levels. The Cholesterol Wars chronicles the controversy that swirled around the 'lipid hypothesis' of atherosclerosis for so many years. In fact, 'the lower the better' is the position of many clinicians. However, getting to this point has been a long uphill battle marked by heated debate and sometimes violent disagreement. The history of this controversy is told here for its own sake and because remembering it may help us avoid similar mistakes in the future. Dr. Steinberg and his colleagues have published over 400 papers relating to lipid and lipoprotein metabolism and atherosclerosis reflecting the prominence these authors have in the community Chronicles the miraculous power of the statins to prevent heart attacks and save lives, of great interest to the many manufacturers of these drugs Discusses new targets for intervention based on a better understanding of the molecular basis of atherosclerosis

Manual of Neurosonology

This state-of-the-art review provides an in-depth and critical summary of homocysteine from its molecular basis to clinical relevance and current clinical trials of folic acid and vitamin B6. Written by leading workers in the field, the book provides an authoritative, comprehensive and thoroughly up-to-date overview for scientists and clinicians and any others engaged in the field. It will also be useful to anyone involved in managing vascular patients or cardiac risk factors, as well as biochemists, pharmacologists, general physicians, cardiologists and clinical and basic researchers with an interest in preventive medicine.

Fundamentals of Vascular Biology

Interventional cardiology has transitioned from angiographic subjective analysis of stenosis severity into assessment of plaque characteristics and objective assessment of stenosis severity. The evolution of novel interventional imaging modalities is progressively altering our understanding of coronary artery disease diagnosis and prognosis. This book will be an essential companion to assist interventional cardiologists in better assessing patients with Coronary Artery Disease. It will encompass and review all interventional imaging modalities and provide guidance for interventional cardiologists to use these modalities.

The Cholesterol Wars

Atherosclerosis is a chronic inflammatory disease that affects medium and large-sized arteries. It begins after birth and the progression depends on several factors - traditional triad: hypertension, hyperlipidemia and diabetes mellitus, then age, sex, smoking and sedentary life-style. At the beginning atherosclerosis is asymptomatic and we cannot estimate appropriately its frequency, but its complications - coronary artery diseases, cerebrovascular diseases, peripheral arterial diseases, which occur late, are responsible for more than half of the yearly mortality in the world. Unfortunately, sudden cardiac death may be the first clinical manifestation. The incipient event is endothelial dysfunction, as a result of injury, caused by high level of cholesterol [especially w-density-lipoprotein LDL], hyperglycemia, hypertension, smoking, infectious agents, and toxins. Endothelial cells overexpress adhesion molecules - vascular cell adhesion molecule-1 [VCAM-1] and increases recruitment of inflammatory cells - monocytes [Mo], T-cells and subsequent release of monocyte chemo-attractant protein-1 [MCP-1] that results in additional leucocytes recruitment. Injured endothelium allows migration of inflammatory cells that release cytokines and lipids into the intima. That leads to cytokine-mediated progression of atherosclerosis and oxidation of LDL. Macrophages [MP] take up oxi-LDL and form foam-cell. They have metabolic activity and produce cytokines, proliferation of smooth muscle cells and formulate athero-fibrose plaque. Atherosclerotic plaque is composed of superficial layer - fibrose cap and lipid core, that consists of foam cells, extracellular lipid and necrotic cellular debris. It progresses as a result of accumulation of lipid and proliferation of smooth muscle cells and results in luminal narrowing of the arteries which leads to compromised blood and oxygen supply to the tissues. The gradually growing atherosclerotic plaques have thick fibrose cap and are stable. They cause symptoms of stable angina. Rapidly growing plaques cause unstable coronary artery disease. These plaques are mainly composed of lipids and have tiny fibrose cap that is prone to fissuring or rupture. Intraplaque hemorrhage from microvessels in plaque initiate platelet adhesion and activation of coagulation cascade that leads to platelet thrombus formation, i.e. promote thrombogenesis. Knowledge of the pathogenesis of the atherothrombosis modifies the diagnostic and therapeutic approach. Conclusion: Attention should be focused on the management of three points: 1. Endothelial dysfunction [correction of modified risk

factors: hypertension, hyperlipidemia, diabetes mellitus, life-style-smoking, physical activity and food], 2. Atherosclerosis [modification of the inflammatory cascade, i.e. elimination of inflammatory pathways and inhibition of oxidation of LDL], 3. Thrombogenesis [inhibition of platelet adhesion, activation and aggregation].

Homocysteine and Vascular Disease

Edited by one of the world's leading interventional cardiologistsand educators, this new book is created with an eye on giving thereader a solid, practical and clinically-focused understanding ofthis important class of drugs, from basic science to a clear-headeddiscussion of complex topics such as combination therapies,drug-drug interactions, and platelet resistance. This important new book: Begins with a concise but thorough discussion of plateletbiology and pathophysiology so that readers understand how thesetherapies work and why they can also produce such a varied range ofcomplications, from minor gastrointestinal upset, to potentiallylife-threatening conditions such as neutropenia, a criticalshortage of white blood cells. Thoroughly covers platelet function testing, including new,novel techniques. Clarifies current best-practices regarding the use ofantiplatelet agents in both chronic and acute cardiovasculardisease Reviews of all types of antiplatelet agents – fromaspirin to recently approved drugs – including indications,clinical outcomes, and side effects/complications Written by an international who's-who of experts in the field,Antiplatelet Therapy also includes an entire section covering theuse of antiplatelet drugs in PCIs, including percutaneous valverepair, which makes this text particularly essential toInterventional Cardiologists.

Interventional Cardiology Imaging

Cardiovascular, respiratory, and related conditions cause more than 40 percent of all deaths globally, and their substantial burden is rising, particularly in low- and middle-income countries (LMICs). Their burden extends well beyond health effects to include significant economic and societal consequences. Most of these conditions are related, share risk factors, and have common control measures at the clinical, population, and policy levels. Lives can be extended and improved when these diseases are prevented, detected, and managed. This volume summarizes current knowledge and presents evidence-based interventions that are effective, cost-effective, and scalable in LMICs.

Atherosclerosis

Antiplatelet Therapy in Cardiovascular Disease