

Clinical features, pathogenesis, and treatment of myasthenia gravis: a supplement to the Guidelines of the German Neurological Society

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Abstract Myasthenia gravis (MG) is an autoimmune antibody-mediated disorder of neuromuscular synaptic transmission. The clinical hallmark of MG consists of fluctuating fatigability and weakness affecting ocular, bulbar and (proximal) limb skeletal muscle groups. MG may either occur as an autoimmune disease with distinct immunogenetic characteristics or as a paraneoplastic syndrome associated with tumors of the thymus. Impairment of central thymic and peripheral self-tolerance mechanisms in both cases is thought to favor an autoimmune CD4⁺ T cell-mediated B cell activation and synthesis of pathogenic high-affinity autoantibodies of either the IgG1 and 3 or IgG4 subclass. These autoantibodies bind to the nicotinic acetylcholine receptor (AChR) itself, or muscle-specific tyrosine-kinase (MuSK), lipoprotein receptor-related protein 4 (LRP4) and agrin involved in clustering of AChRs

within the postsynaptic membrane and structural maintenance of the neuromuscular synapse. This results in disturbance of neuromuscular transmission and thus clinical manifestation of the disease. Emphasizing evidence from clinical trials, we provide an updated overview on immunopathogenesis, and derived current and future treatment strategies for MG divided into: (a) symptomatic treatments facilitating neuromuscular transmission, (b) antibody-depleting treatments, and (c) immunotherapeutic treatment strategies.

Keywords Myasthenia gravis · Pathogenesis · Treatment guidelines

Introduction

Myasthenia gravis (MG) is regarded an autoimmune antibody-mediated disorder of neuromuscular synaptic transmission as (a) auto-antibody depositions are detectable at the neuromuscular junction (NMJ) [175, 176]; (b) autoantibodies from MG patients cause MG symptoms when

This manuscript has partially been adopted from the clinical guidelines “Diagnostik und Therapie der Myasthenia gravis und des Lambert-Eaton-Syndroms” of the German Neurological Society (DGN) published by some of the authors [44]. Publication has been permitted by the German Neurological Society.

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Clinical Features Pathogenesis Computed

Charles V. Sanders, Lee T. Nesbitt



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Abdominal Imaging E-Book Dushyant V Sahani, Anthony E Samir, 2016-06-25 Richly illustrated and comprehensive in scope Abdominal Imaging 2nd Edition by Drs Dushyant V Sahani and Anthony E Samir is your up to date one volume source for evaluating the full range of diagnostic therapeutic and interventional challenges in this fast changing field Part of the Expert Radiology series this highly regarded reference covers all modalities and organ systems in a concise newly streamlined format for quicker access to common and uncommon findings Detailed expert guidance accompanied by thousands of high quality digital images helps you make the most of new technologies and advances in abdominal imaging Offers thorough coverage of all diagnostic modalities for abdominal imaging radiographs fluoroscopy ultrasound CT MRI PET and PET CT Helps you select the best imaging approaches and effectively interpret your findings with a highly templated well organized at a glance organization Covers multi modality imaging of the esophagus stomach small bowel colon liver pancreas gall bladder bile ducts spleen pelvic lymph nodes kidneys urinary tract prostate and peritoneum Includes new chapters on esophageal imaging 5RECIST WHO and other response criteria and a new section on oncologic imaging Keeps you up to date with the latest developments in image guided therapies dual energy CT elastography and much more Features more than 2 400 high quality images including 240 images new to this edition

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Multimodality Cardiac Imaging, An Issue of Cardiology Clinics Andrew W. Harris,Megan S. Joseph,2025-11-20 In this issue of Cardiology Clinics guest editors Drs Andrew W Harris and Megan S Joseph bring their considerable expertise to the topic of Multimodality Cardiac Imaging By combining the strengths of different modalities such as echocardiography cardiac MRI CT nuclear imaging and more clinicians can gain a more accurate and complete understanding of various cardiovascular conditions from coronary artery disease and cardiomyopathies to valvular and congenital heart disorders In this issue top experts highlight how an integrated imaging approach enhances diagnostic precision guides treatment planning and supports better outcomes in both acute and chronic cardiac care Contains 12 relevant practice oriented topics including multimodal imaging assessment of aortic stenosis mitral regurgitation and tricuspid regurgitation and the right ventricle imaging for transcatheter mitral valve replacement planning multimodal evaluation of cardiomyopathy assessment of MINOCA INOCA by nuclear imaging and MRI and more Provides in depth clinical reviews on multimodality cardiac imaging offering actionable insights for clinical practice Presents the latest information on this timely focused topic under the leadership of experienced editors in the field Authors synthesize and distill the latest research and practice guidelines to create clinically significant topic based reviews *Trauma Imaging in the Thorax and Abdomen* Alexander

Rosenberger,Olga B. Adler,Rosalind H. Troupin,1987 **Infections of the Central Nervous System** W. Michael Scheld,Richard J. Whitley,Christina M. Marra,2014-04-21 Tap into the gold standard on central nervous system infections Infections of the Central Nervous System 4e is now fully revised and updated to accommodate the wealth of new CNS information discovered over the past decade More than 90 leading experts contribute chapters providing comprehensive up to date information With a broad scope and thorough detail the text addresses pathogenesis clinical manifestations diagnosis and therapy of various CNS infections and related conditions Features Every chapter has been extensively revised and updated nearly half with new author teams NEW chapter on acute encephalitis NEW clinical information on treatment of tuberculosis non tubercular mycobacterial infections brain abscess and Lyme disease NEW color design and color images Numerous diagrams figures tables illustrations and photographs demonstrate the content Evidence based references

Stroke Prevention, Treatment, and Rehabilitation David Spence,Henry JM Barnett,2012-03-30 Help your patients avoid a new or recurrent stroke with this evidence based guide Featuring a rigorous evidence based approach and hands on tools this book will enable you to go further in minimizing the risk of stroke for your patients Edited by two global authorities this book offers leading edge insights new data and best practices from luminaries in the field all designed to help you apply proven stroke prevention techniques and treatment protocols to your practice In concise practical chapters the text surveys

the epidemiology of stroke the urgency of treatment and how to unlock the considerable potential for prevention Specific chapters highlight specific ready to use prevention methods including Nutritional counseling smoking cessation and exercise Management of hypertension Antiplatelet anticoagulation and lipid lowering therapies Intracranial stenosis and appropriate endarterectomy and stenting Treatment and rehabilitation for when stroke has already occurred Assessment of Hypertensive Organ Damage Lennart Hansson,W. H. Birkenhäger,1997 Hardbound A recent wave of interest in practical hypertension research relates to the evaluation of organ damage in connection with the hypertensive process A large number of prognostic therapeutic trials in hypertensive populations has convincingly shown that antihypertensive treatment per se substantially improves the cardiovascular prospects of such patients This particularly applies to cerebrovascular accidents which are the most dramatic events from any point of view It should be recognized that the identification of all cardiovascular sequelae thus far focused on conventional clinical pathological criteria and hence lacked quantitative evaluation The currently available techniques of identifying early organ lesions may well exonerate hypertensive patients from being exposed to avoidable and irreversible cardiovascular risk because they pinpoint early quantifiable hypertensive retinal cerebral cardiac and renal lesions Given the current *Primer on Kidney Diseases* Arthur Greenberg,Alfred K. Cheung,1998 This Second Edition of the National Kidney Foundation s *Primer on Kidney Diseases* provides an up to date review of kidney disease fluid and electrolyte disorders hypertension dialysis and renal transplantation All material has been thoroughly revised from the First Edition making this edition the new authority on kidney diseases The Second Edition summarizes key information of practical value to nephrologists endocrinologists primary care physicians family practitioners internists house staff medical students and other professionals providing health care to patients with kidney disease Each chapter is written by an established expert in the field with superior writing and teaching skills Careful editing ensures a consistent depth of coverage and uniform style as well as a balanced approach to controversial topics The result is a state of the art approach to clinical disorders of kidney disease and electrolyte metabolism **Bockus Gastroenterology** Henry L. Bockus,1995 *Congenital Defects Literature Index* ,1977 References from some 3500 worldwide biomedical journals to all significant articles *Neurology of the Newborn* Joseph J. Volpe,2001 The extensively updated 4th Edition of this landmark reference represents one of the most comprehensive up to date sources on neonatal neurology It expertly synthesizes state of the art knowledge from a variety of disciplines including clinical medicine pathology genetics physiology biochemistry and related fields Although the primary focus is on clinical evaluation and management the book also examines the sophisticated technology that has been revolutionizing the field Organizes disease focused chapters by the affected body region for easy reference Offers comprehensive coverage of the diagnosis and treatment of congenital viral infections teratogenic effects of certain drugs hyperammonemia and traumatic disorders Includes over 1000 illustrations and 9 500 references many of them new Reflects the latest insights into molecular genetics and their relevance to clinical practice Describes the most recent

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Bacterial Infections of the Central Nervous System Karen L. Roos,Allan R. Tunkel,2010-03-03 Bacterial Infections of the Central Nervous System aims to provide information useful to physicians taking care of patients with bacterial infections in the central nervous system CNS which can lead to morbidity and mortality The increased number of patients suffering from this infection has led to the development of vaccines and antibiotics Comprised of four chapters the book explains the general approach to patients with bacterial CNS infection It also discusses various CNS infection concepts and terms These include the characteristic neuroimaging appearance of specific bacterial infections the limitations of neuroimaging the cerebrospinal fluid analysis the pathogenesis and pathophysiology of bacterial CNS infections the developments of specific adjunctive strategies and the principles of antimicrobial therapy It also includes discussions on various diseases that target the CNS such as meningitis focal CNS infections neurological complications of endocarditis suppurative venous sinus thrombosis infections in the neurosurgical patient and CNS diseases caused by selected infectious agents and toxins This book will serve as a guide for clinical physicians who have patients suffering from bacterial CNS infection

Synopsis of Diseases of the Chest Richard S. Fraser,2005 Derived from Fraser and Par s encyclopedic *Diagnosis of Diseases of the Chest* this state of the art New Edition focuses on the diseases and disorders clinicians see in everyday practice Over 1 400 beautifully reproduced images including 100 in full color demonstrate the clinical appearance of a full range of conditions

Heart Disease Eugene Braunwald,1997 This is a thoughtfully organized comprehensive multiauthored textbook devoted to all aspects of cardiovascular diseases The previous edition was published in 1992 The purpose is to summarize the up to date understanding of heart disease which is a very important and challenging goal given the explosion of information and the numerous clinical trials in the field of cardiovascular disease especially in the last few years The book meets its goal with outstanding success The primary audience for is cardiologists and cardiovascular residents It is a must for all cardiologists cardiology fellows and allied staff It would also be extremely useful for cardiovascular surgeons internists and primary care physicians caring for cardiac patients The editor needs no introduction as the pioneer in cardiology over the last few decades and the contributors are household names in cardiology and have an intimate knowledge of these subjects from both a basic science perspective and a clinical point of view The illustrations are clear concise ample and stimulating There are plenty of sharply colored tables highlighting the important points from the text The book is numerously referenced with up to date and landmark studies for each chapter annotated with citations up to 1995 It has a handsome cover and the colors used to highlight the headlines and tables are

very attractive This is a well written comprehensive textbook by authorities in cardiovascular disease The editor s involvement in writing a large part of the book made it possible to minimize fragmentation and maximize editorial consistency This new edition is a massive undertaking due to the sweeping revision of the previous edition making it 15 percent longer with 21 new chapters Examples of particularly important new chapters are coronary artery disease in women principles of cardiovascular molecular and cellular biology and my favorite addition practice guidelines in cardiovascular medicine Finally this book has been since its first edition the bible in cardiovascular diseases and should find its way into all medical libraries and offices of physicians caring for patients with cardiovascular disease

The Skin and Infection

Charles V. Sanders, Lee T. Nesbitt, 1995

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