
Advances in Experimental Medicine and Biology

Neuroscience and Respiration

Volume 1023

Subseries Editor
Mieczyslaw Pokorski

More information about this series at <http://www.springer.com/series/13457>

Mieczyslaw Pokorski
Editor

Pulmonary Disorders and Therapy

 Springer

Editor

Mieczyslaw Pokorski
Opole Medical School
Opole, Poland

ISSN 0065-2598 ISSN 2214-8019 (electronic)
Advances in Experimental Medicine and Biology
ISBN 978-3-319-73702-7 ISBN 978-3-319-73703-4 (eBook)
<https://doi.org/10.1007/978-3-319-73703-4>

Library of Congress Control Number: 2017964514

© Springer International Publishing AG 2018

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, express or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Printed on acid-free paper

This Springer imprint is published by Springer Nature
The registered company is Springer International Publishing AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Preface

The book series Neuroscience and Respiration presents contributions by expert researchers and clinicians in the multidisciplinary areas of medical research and clinical practice. Particular attention is focused on pulmonary disorders as the respiratory tract is up front at the first line of defense for organisms against pathogens and environmental or other sources of toxic or disease-causing effects. The articles provide timely overviews of contentious issues or recent advances in the diagnosis, classification, and treatment of the entire range of diseases and disorders, both acute and chronic. The texts are thought as a merger of basic and clinical research dealing with biomedicine at both the molecular and functional levels and with the interactive relationship between respiration and other neurobiological systems, such as cardiovascular function, immunogenicity, endocrinology and humoral regulation, and the mind-to-body connection. The authors focus on modern diagnostic techniques and leading-edge therapeutic concepts, methodologies, and innovative treatments. The action and pharmacology of existing drugs and the development and evaluation of new agents are the heady area of research. Practical, data-driven options to manage patients are considered. New research is presented regarding older drugs, performed from a modern perspective or from a different pharmacotherapeutic angle. The introduction of new drugs and treatment approaches in both adults and children is also discussed.

Body functions, including lung ventilation and its regulation, are ultimately driven by the brain. However, neuropsychological aspects of disorders are still mostly a matter of conjecture. After decades of misunderstanding and neglect, emotions have been rediscovered as a powerful modifier or even the probable cause of various somatic disorders. Today, the link between stress and health is undeniable. Scientists accept a powerful psychological connection that can directly affect our quality of life and health span. Psychological approaches, which can decrease stress, can play a major role in disease therapy.

Neuromolecular and carcinogenetic aspects relating to gene polymorphism and epigenesis, involving both heritable changes in the nucleotide sequence and functionally relevant changes to the genome that do not involve a change in the nucleotide sequence, leading to disorders, are also tackled.

Clinical advances stemming from molecular and biochemical research are but possible if research findings are translated into diagnostic tools, therapeutic procedures, and education, effectively reaching physicians and patients. All this cannot be achieved without a multidisciplinary, collaborative, bench-to-bedside approach involving both researchers and clinicians. The role of science in shaping medical knowledge and transforming it into practical care is undeniable.

Concerning respiratory disorders, their societal and economic burden has been on the rise worldwide, leading to disabilities and shortening of life-span. Chronic obstructive pulmonary disease (COPD) alone causes more than three million deaths globally each year.

Concerted efforts are required to improve this situation, and part of those efforts are gaining insights into the underlying mechanisms of disease and staying abreast with the latest developments in diagnosis and treatment regimens. It is hoped that the articles published in this series will assume a leading position as a source of information on interdisciplinary medical research advancements, addressing the needs of medical professionals and allied health-care workers, and become a source of reference and inspiration for future research ideas.

I would like to express my deep gratitude to Paul Roos, Tanja Koppejan, and Cynthia Kroonen of Springer Nature NL for their genuine interest in making this scientific endeavor come through and in the expert management of the production of this novel book series.

Mieczyslaw Pokorski

Contents

Acute and Chronic Effects of Oral Erdosteine on Ciliary Beat Frequency, Cough Sensitivity and Airway Reactivity	1
L. Pappová, I. Kazimierová, M. Jošková, M. Šutovská, and S. Fraňová	
Inhalation Exposure to PM-Bound Polycyclic Aromatic Hydrocarbons Released from Barbecue Grills Powered by Gas, Lump Charcoal, and Charcoal Briquettes	11
Artur J. Badyda, Kamila Widziewicz, Wioletta Rogula-Kozłowska, Grzegorz Majewski, and Izabela Jureczko	
Intensity of Anxiety and Depression in Patients with Lung Cancer in Relation to Quality of Life	29
Jacek Polański, Mariusz Chabowski, Anna Chudiak, Bartosz Uchmanowicz, Dariusz Janczak, Joanna Rosińczuk, and Grzegorz Mazur	
Oleic Derivatives of Dopamine and Respiration	37
Dominika Zajac, Agnieszka Stasinska, and Mieczyslaw Pokorski	
Intermittent Hypoxia and Unsaturated Aldehydes: Effects on Oral Epithelial Wound Healing	47
Katia Avezov, Lena Lavie, and Dror Aizenbud	
Body Mass Disorders in Healthy Short Children and in Children with Growth Hormone Deficiency	55
Paweł Tomaszewski, Katarzyna Milde, Anna Majcher, Beata Pyrżak, Gul Tiryaki-Sonmez, and Brad J. Schoenfeld	
Survival of Patients with Cystic Fibrosis Depending on Mutation Type and Nutritional Status	65
A. Szwed, A. John, J. Goździk-Spychalska, W. Czaiński, W. Czerniak, J. Ratajczak, and H. Batura-Gabryel	
Lung Function in Pregnancy in Langerhans Cell Histiocytosis . . .	73
Elżbieta Radzikowska, Elżbieta Wiatr, Monika Franczuk, Iwona Bestry, and Kazimierz Roszkowski-Śliż	

Psychobehavioral Effects of Meditation	85
Mieczyslaw Pokorski and Anna Suchorzynska	
Vaccine Effectiveness against Influenza in 2015/16 in Hospital and Ambulatory Medical Care Facilities: Polish Results of the European <i>I-MOVE+</i> Multicenter Study	93
Iwona Paradowska-Stankiewicz, Monika R. Korczyńska, Katarzyna Cieślak, Dorota Kowalczyk, Karol Szymański, and Lidia B. Brydak	
Index	101