
Serous Effusions

Ben Davidson
Editor-in-Chief

Pınar Fırat • Claire W. Michael
Editors

Serous Effusions

Etiology, Diagnosis, Prognosis and Therapy

Editor-in-Chief

Ben Davidson, M.D., Ph.D.
Department of Pathology
Norwegian Radium Hospital
Oslo University Hospital
The Medical Faculty, University of Oslo
Oslo
Norway

Editors

Pınar Fırat, M.D.
Department of Pathology
İstanbul Faculty of Medicine
İstanbul University
Çapa, Fatih
İstanbul
Turkey

Claire W. Michael, M.D.
Department of Pathology
The University of Michigan
Ann Arbor
USA

ISBN 978-0-85729-696-2 e-ISBN 978-0-85729-697-9
DOI 10.1007/978-0-85729-697-9
Springer London Dordrecht Heidelberg New York

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

Library of Congress Control Number: 2011939311

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Cover accreditation: Ben Davidson – Editor in Chief, others as Editor

Cover design: eStudioCalamar, Figueres/Berlin

Printed on acid-free paper

Springer is part of Springer Science+Business Media (www.springer.com)

Preface

The serosal cavities are affected by a large number of benign and malignant processes, and serous effusions constitute one of the most commonly seen specimen types in cytopathology. Unlike other areas within cytopathology, which have practically become extinct, such as fine needle aspiration of the prostate, or that which are being challenged by other diagnostic approaches, such as breast and cervical cytology in the context of core biopsies and HPV testing, respectively, effusions are here to stay. The main reason for this is the obvious fact that cytology is the only method by which one may retrieve cells from fluid, often in the absence of solid lesions or when obtaining a biopsy from the latter is more difficult and costly and entails much greater discomfort or risk for the patient. The second reason why effusions are more relevant than ever is the growing share of cancer in global morbidity and mortality, resulting from longevity and probably from increased exposure to cancer-causing agents.

Whereas many of the morphologic principles related to effusion cytology have not been changed in the last decades, the ancillary methods that aid us in this diagnostic setting are different. Not insignificantly, so are the clinical expectations. Medicine in the twenty-first century is experiencing rapid movement toward personalized Medicine and the use of targeted therapy as supplement to the more established modalities of surgery, chemotherapy, and radiation. As many of these therapeutic approaches are and will be used in the setting of metastatic and/or recurrent disease, cytopathologists have a unique opportunity to be central players in this new world. Effusions are often large-volume and easy to obtain, and consist of viable cells that are dissociated or are in small groups, making this material ideal for both immunohistochemistry and molecular techniques.

Several excellent chapters on serous effusion diagnosis have been published in cytopathology textbooks, and few books dealing exclusively with effusions have been published as well. This book differs from these earlier publications in its scope and approach, being the first one to combine diagnosis and research. The first two sections of the book provide an updated overview of all entities which may be encountered in effusion diagnosis, with illustrations of the majority of these entities. An appendix dealing with the authors' choice of antibodies for the most common differential diagnostic dilemmas concludes this part of the book.

Following the diagnostic sections is a comprehensive overview of research performed on effusions, with the exception of hematological cancer, detailing current status in lung, breast, and ovarian carcinoma, in malignant mesothelioma, and in various cancers of other origin. These chapters demonstrate the vast potential of effusions as material for translational, as well as experimental research. Furthermore, many molecules analyzed as part of a scientific project are making their way into the clinic as part of new therapeutic approaches, or have already entered this arena.

While cytopathologists are the primary audience of this book, we hope that by bridging diagnostics and science this publication may prove of interest to other disciplines, including both clinicians and researchers, who are involved in the battle against cancer.

Ben Davidson
Pinar Firat
Claire Michael

Acknowledgments

The Editors wish to thank Profs. Schmitt, Hjerpe and Dobra and Dr. Tierens for their important contribution to this book.

Prof. Davidson wishes to thank his friends and colleagues Prof. Aasmund Berner and Dr. Björn Risberg at the Norwegian Radium Hospital for introducing him to the field of cytopathology in general and effusions in particular.

The Editor gratefully acknowledges the competent technical help provided by the lab team at the Norwegian Radium Hospital through many years, without which his scientific work would not have been achieved, as well as the recent contribution of the molecular lab of our department at Rikshospitalet.

Finally, the significant contribution of his collaborators is gratefully acknowledged, in particular that of Prof. Reuven Reich (Hebrew University, Jerusalem, Israel), Profs. Ie-Ming Shih and Tian-Li Wang (Johns Hopkins Medical Institutions, Baltimore, MD, USA), Dr. Elise Kohn (NCI/NIH, Bethesda, MD, USA), and Profs. Claes Trope' and Jahn M. Nesland (Norwegian Radium Hospital).

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Contributors

Ben Davidson, M.D., Ph.D. Department of Pathology, Norwegian Radium Hospital, Oslo University Hospital, The Medical Faculty, University of Oslo, Oslo, Norway

Katalin Dobra, M.D., Ph.D. Department of Laboratory Medicine, Division of Pathology, Karolinska Institutet, Stockholm, Sweden

Pınar Fırat, M.D. Department of Pathology, İstanbul Faculty of Medicine, İstanbul University, İstanbul, Turkey

Anders Hjerpe, M.D., Ph.D. Department of Laboratory Medicine, Division of Pathology, Karolinska Institutet, Stockholm, Sweden

Claire W. Michael, M.D. Department of Pathology, The University of Michigan, Ann Arbor, MI, USA

Fernando Schmitt, M.D., Ph.D. IPATIMUP and Medical Faculty, Porto University, Porto, Portugal

Anne M. Tierens, M.D., Ph.D. Department of Pathology, Norwegian Radium Hospital, Oslo University Hospital, Oslo, Norway