Lymph Node Fine-Needle Cytology and Flow Cytometry in Clinical Practice
An Update

Guest Editor
Pio Zeppa, Salerno
Learn more about this promising new technique

Liquid-Based Techniques in Non-Gynecological Cytology
From Morphology to Molecular Methods

Editors
Adhemar Longatto-Filho
Kari J. Syrjänen

This special topic issue of Acta Cytologica provides the reader with a comprehensive and critical overview of liquid-based cytology (LBC) applied to different non-gynecological samples and technical procedures. Non-gynecological LBC plays an increasingly important role in diagnostic cytopathology, since it has the potential for a similar or better diagnostic accuracy than conventional smears. The possibility of storing material which is useful for molecular procedures provides LBC with a great advantage that may be further exploited by next-generation sequencing technology. The articles in this issue discuss LBC as a reliable alternative tool to surgical or core needle biopsies in cancer diagnosis and prognosis and open up new prospects for cancer research. Further, this issue reflects on the potential applications of several molecular players as specific targets for personalized therapy.

Liquid-Based Techniques in Non-gynecological Cytology is of special interest to pathologists, cytotechnicians and laboratory researchers.

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Using and Understanding Medical Statistics
5th, revised and extended edition

David E. Matthews
Vernon T. Farewell

The fifth revised edition of this highly successful book presents the most extensive enhancement since Using and Understanding Medical Statistics was first published 30 years ago. Without question, the single greatest change has been the inclusion of source code, together with selected output, for the award-winning, open-source, statistical package known as R. This innovation has enabled the authors to de-emphasize formulae and calculations, and let software do all of the ‘heavy lifting’. This edition also introduces readers to several graphical statistical tools, such as Q-Q plots to check normality, residual plots for multiple regression models, funnel plots to detect publication bias in a meta-analysis and Bland-Altman plots for assessing agreement in clinical measurements. New examples that better serve the expository goals have been added to a half-dozen chapters. In addition, there are new sections describing exact confidence bands for the Kaplan-Meier estimator, as well as negative binomial and zero-inflated Poisson regression models for over-dispersed count data.

The end result is not only an excellent introduction to medical statistics, but also an invaluable reference for every discerning reader of medical research literature.

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Lung Carcinoma in the Era of Personalized Medicine: The Role of Cytology

Editors
Maureen F. Zakowski
Marluce Bibbo

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This special issue of Acta Cytologica focuses on the role of cytology in influencing therapy, directing management, and uncovering new strategies in the complex field of non-small cell lung cancer (NSCLC). With the discovery of the activating mutations in the epidermal growth factor receptor in 2004, a new era of personalized medicine in lung cancer began. Along with these discoveries came a new approach to the care of the NSCLC cancer patient with a direct impact on the practice of cytopathology. In an attempt to guide the cytopathologist and offer strategies to navigate this new era, this issue brings together data and techniques from international experts in diagnostics, testing, epidemiology, and new discoveries. New techniques are highlighted, including expanded use of immunocytochemistry and fluorescent in situ hybridization and use of laser capture microdissection in cytology. A view from interventional radiology, so important in obtaining specimens from cancer patients, is presented and a novel algorithm incorporating microRNA detection in these specimens is discussed. Telecytology as a way to diagnose remotely is explored. A look at NSCLC from the Asian perspective, which has taught us much about mutations and epidemiology, is included. A unique perspective from cytopathologists who are often at the ‘front line’ of the battle against this disease is presented.

These papers provide an in-depth look at the state of the art, as well as a guide to the future of cytology in the era of personalized medicine.
A new comprehensive edition of a standard work, detailing and illustrating the organization, structure, function and connectivity of all individual brainstem nuclei

Olszewski and Baxter’s Cytoarchitecture of the Human Brainstem
3rd, revised and extended edition
Editors
Jean A. Büttner-Ennever
Anja K.E. Horn

The new revised and extended edition of this standard work retains all the original and unique low- and high-power photographs which document the organization of the human brainstem as well as the individual character of the neurons of each nucleus. Many structural differences are described in neuronal groups, indicating as yet unrecognized functional differences. Furthermore unique details of the neuronal organization and cytoarchitecture are featured, providing clues to the functional properties of the cell groups and stimulating research projects.

Nomenclature and nuclear borders have been updated, in addition the text now contains new sections presenting an up-to-date summary of the functional neuroanatomy of each nucleus.

For neuroscientists and neurologists this atlas provides an invaluable and complete source of reference for both their scientific research and everyday clinical practice. Neuropathologists, neuroradiologists, neuropsychologists, neurosurgeons, physiologists and physicians will find the combination of low-power brainstem imaging with cytological, physiological and neuroanatomical data highly relevant. In addition the atlas offers researchers in other disciplines the opportunity to discover new correlations between structure and function, outlining new functional regions in the brainstem.

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• Materials and Methods
• Alphabetical List of Nuclei, Abbreviations and Original Names

Plates of Serial Sections through the Human Brainstem

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With articles offering an excellent balance between clinical cytology and cytopathology, Acta Cytologica fosters the understanding of the pathogenetic mechanisms behind cytomorphology and thus facilitates the translation of frontline research into clinical practice. As the official journal of the International Academy of Cytology and affiliated to over 50 national cytology societies around the world, Acta Cytologica evaluates new and existing diagnostic applications of scientific advances as well as their clinical correlations. Original papers, review articles, meta-analyses, novel insights from clinical practice, and letters to the editor cover topics from diagnostic cytopathology, gynecologic and non-gynecologic cytopathology to fine needle aspiration, molecular techniques and their diagnostic applications. As the perfect reference for practical use, Acta Cytologica addresses a multidisciplinary audience practicing clinical cytopathology, cell biology, oncology, interventional radiology, otorhinolaryngology, gastroenterology, urology, pulmonology and preventive medicine.

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Lymph Node Fine-Needle Cytology and Flow Cytometry in Clinical Practice
An Update

Lymph node (LN) fine-needle cytology (FNC) coupled with flow cytometry immunophenotyping provides important information for diagnosing non-Hodgkin lymphoma. This special topic issue offers comprehensive reviews that describe the state of the art of LN FNC-FC and all its possible applications. FNC and FC are two independent procedures that can conveniently meet and merge in specific conditions and represent the basis for further molecular procedures. FNC samples are, for example, suitable for various molecular procedures. The issue includes a brief description of available tools and their potential application to LN FNC.

FNC may be useful for diagnosing lymphoma and determining prognosis. As such, this publication is highly recommended to cytopathologists, pathologists, and hematologists.

Cover illustration
Examples of FC analysis in an FNA sample of a reactive lymph node. From Stacchini et al., pp. 314–325.