Understanding digital pathology applications in clinical practice, education and research

This special topic issue covers the essential elements of digital pathology. The basic components of a whole slide imaging system (WSI) are reviewed, and interoperability and standards recommendations are offered, including a thorough revision of the international guidelines on digital pathology. Further, the publication provides a study on conventional microscopy versus WSI in pre-graduate and post-graduate medical training. It includes a study on synoptic pathology reports, evidence supporting the use of WSI for primary diagnosis in the different pathology subspecialties, second opinion telepathology, and practical recommendations for large volume storage. New technologies that lead to future 3D representation of tissue histology are examined. Finally, this issue discusses integrative digital pathology, microsemiology, comprehensive immunohistochemistry, and computational pathology concepts.

Digital Pathology is primarily aimed at pathologists, residents, technicians, biologists, and IT scientists. It provides answers to current challenges and some innovative proposals for the future.

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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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Metastatic cholangiocarcinoma identified within a porta hepatitis lymph node by EUS-FNA. Immunohistochemical stain positivity for CK7, along with clinical data, support the diagnosis of metastatic cholangiocarcinoma. From Jones et al., pp. 154–160.