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Update on digital pathology in cytopathology

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There is a growing body of literature referencing the uses of telecytopathology in clinical care. Telecytopathology (TCP) is the interpretation of cytopathology material at a distance using digital images. Although there is a long history of attempts in implementing TCP for broad clinical use, it still has limited, but important applications in patient care. While the technology has improved from low-grade video quality images to higher-grade static digital images and more recently, whole slide imaging with sub-micron resolution scanning capabilities, the nature of cytology material itself, both in terms of quantity and often quality of cells that can be imaged and viewed at a distance remains a challenge. Cytology material often is not as uniform as formalin-fixed paraffin embedded tissue in terms of thickness for focusing and cells with three-dimensionality may be spread across an entire slide compare with conventional histology processing. The use of multiple stains to detect subtle features, such as Papanicolaou and Romanowsky in tandem, may increase the number of slides to be viewed and limiting digital pathology techniques to perform assessments in a timely manner. While fine needle aspiration (FNA) is certainly not a new technique, recent developments in advanced imaging techniques, molecular testing and targeted therapies have coincided with a rapid increase in the number of FNA procedures being performed. Consequently, the demand for rapid on-site assessment has also increased, outstripping the capacity of available cytopathologists at many institutions. This session will address the value proposition and use cases for digital pathology in cytopathology.

Biography

Keith J Kaplan is a graduate of Michigan State University, USA. He is a graduate of Northwestern University, Feinberg School of Medicine and completed Residency training in Anatomic and Clinical Pathology at Walter Reed Army Medical Center, Washington, DC. He is board certified in Anatomic and Clinical Pathology. His subspecialty interests include gastrointestinal and hepatic pathology, cytopathology and pathology informatics as well as research interests in gastrointestinal and hepatobiliary pathology, hyperspectral imaging, image analysis and the use of Web 2.0 tools in pathology. He has authored over 60 peer-reviewed scientific articles, book chapters, editorials and scientific abstracts and frequently lectures at both national and international meetings on topics related to pathology informatics. He currently serves as a Member of the College of American Pathologists, American Society of Clinical Pathology, American Society of Cytopathology as well as the American Pathology Foundation. He is also an Executive Board Member of the American Pathology Foundation.

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