J Cytol Histol 2015, 6:5
http://dx.doi.org/10.4172/2157-7099.C1.003

OMICS International
conferenceseries.com

The Paris system for reporting urinary cytology: Diagnostic paradigm shift, current topics and the potential for molecular testing

Matthew T Olson
The Johns Hopkins University School of Medicine, USA

Urinary cytology has long been used as a first-step in the evaluation of a patient with a clinical suspicion for urothelial carcinoma (UC) as well as for surveillance of patients who have a known history of UC. Urinary cytology is most sensitive and specific in the diagnosis of high-grade carcinoma which is also the tumor that is most likely to invade, metastasize and cause mortality and morbidity for the patient. As such, the Paris System (TPS) for Reporting Cytopathology, which is an international consensus system developed with the backing of the International Academy of Cytology (IAC) and the American Society of Cytopathology (ASC) focuses on standardizing the reporting template worldwide and optimizing it for the detection of high grade UC. As such, TPS represents a major paradigm shift both because it is the first time urinary cytological reports are poised to have international uniformity and because it clearly outlines the appropriate place for how urinary cytology should be used and interpreted. This level of standardization should enable the deployment of molecular and other ancillary testing to targeted clinical problems in a manner that is most conducive to guiding patient care in a clinically relevant and cost-effective manner. Several strategies including the existing technologies as well as a new gene expression classifier that is in development will be discussed specifically in the context of TPS.

molson8@jhmi.edu

Protein extraction from methanol fixed paraffin embedded tissue blocks: A new possibility using cell blocks

Miral Patel
Children's Hospital of Philadelphia, USA

The traditional cellblock is an essential cytology preparation which offers benefits over cytologic smears by preservation of cell architecture and the performance of immunohistochemical studies. In the current era of minimally invasive techniques for obtaining tissue samples for diagnostic and prognostic markers, cellblocks containing "limited material" specimens are routinely used to provide the valuable information about pre-disease and disease processes. The methanol fixed and paraffin embedded cellblocks are prepared manually with minimal automation with their quality highly dependent upon the experience of the cytopreparation personnel. Currently, Cellient® automated cell block system is widely used for MFPE cellblock preparation to ensure consistent quality preparation by minimizing the operator dependency. Despite advances in technology, the relatively small size of the cytology scrapings MFPE cell blocks in comparison to the formalin fixed and paraffin embedded counterparts have caused them to be often overlooked in biomarker discovery. Recently, in the field of proteomics, there is an emphasis on utilizing limited tissue samples such as core biopsies and cellblocks for the evaluation of molecular biomarkers. These have the potential of being eventually converted into novel diagnostic marker assays that will aid in improving the efficacy of clinical intervention as well as the validation of leads and targets. Proteomic platforms have developed over the past few years due to advances in scientific knowledge and technology with the next technologic leap being the application of proteomic technologies to the bedside. At present, there is a lack of established methods or resources for extracting proteins from MFPE cell blocks.

miral729@gmail.com