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Cellblochistry: Chemistry and art of cell block making

CellBlochistry is science to study the art and chemistry of cell block making. It involves conglomeration of minute tissue fragments and isolated cells / small cell groups in specimens collected or submitted as suspensions. This conglomeration is processed as paraffin embedded tissue sections with benefits of long term archival and other benefits comparable to surgical pathology biopsy specimens for various elective ancillary tests. Variety of samples that may be 'Cell Blocked' include FNA needle rinses, body fluids, exfoliated cells similar to the cervical cytology specimens, different brushings such as bronchial, bile duct etc; various curettages including endocervical curettings, scrapings of cytology smears (stained or unstained), or any other cytology specimen with micro-fragments. In addition, research samples including scrapings of surface grown cell cultures and specimens from animal experiments (comparable to clinical samples) or comparable veterinary specimens. The role of cell blocks is already established but its significance is increasing further due to their enhancing role with recent advances in molecular pathology in modern medicine. However, variable complexity on both, scientific and skill fronts, introduces many challenges with suboptimal quantitative and qualitative outcomes. The current keynote presentation will cover the limitations related to various alternatives available for cell block preparation with solutions to overcome reasons for suboptimal cell blocks and cell block sections. Leading factors responsible for such interferences include fixation and processing. Immunocytochemical evaluation as most frequent indication for cell blocks is facilitated by applying Subtractive Coordinate Immunoreactivity Pattern (SCIP) approach. Additionally, other ancillary testing which can be performed on blocks include molecular pathology studies, In situ hybridization studies (FISH, CISH), Histochemistry (stains for organisms, various tissue structures/components), and other evolving technologies such as mass spectrophotometry, proteomics, etc.

Biography

Vinod B Shidham is a certified Anatomic and Clinical Pathologist and Cytopathologist by American Board of Pathology. His spectacular career started in Nagpur (Maharashtra State). After serving in academia in India up to the level of Professor of Pathology at Grant Medical College and JJ Group of Hospitals in Mumbai till 1985, he left for middle east and then to USA. Currently, he is Professor of Pathology at Wayne State University School of Medicine, Karmanos Cancer Center, and Detroit Medical Center, Detroit, MI in USA. He is Vice-chair- Anatomic Pathology and Director of Cytopathology, Cytotechnology School, Cytopathology fellowship training program, GI pathology fellowship, and The Pathology of Residency Training Program. Shidham is a strong proponent of 'Open access' philosophy in academic publications. He is editor-in-chief of 'CytoJournal' which is a peer-reviewed, PubMed indexed open access journal publishing high-quality papers in cytopathology. He is editor of upcoming monographs on 'EUS-FNA of pancreas' and 'FNAB procedure' as CytoJournal Monograph & Atlas Series on timely topics.

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