

DIGITAL PATHOLOGY & IMAGE ANALYSIS

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Glass slide preparation and digital pathology

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Digital Pathology is now spreading rapidly. One of the key event is slide scanning because good digital image is crucial for Digital Pathology. WSI (Whole Slide Imaging) scanner is not an all-mighty machine but requires real good glass slide for scan. This time, I'd like to list-up several key-points in glass slide preparation and make proposal for solution. Many steps in glass slide preparation may cause trouble in WSI scanning like quality of thin slicing, mounting slices on glass, embedding, drying, pasting slide label, cover slipping, writing on cover slip, type of cover slip, wiping before scanning, and tissue fixation. WSI scanners are always required to achieve fast scanning speed and good focus. Good quality of thin slicing and slide preparation is exclusive for this purpose. If there are folding, waving, or scratch of slices, embedding dust, bubble, too-much embedding materials, protruded slide label or cover slip, letters or lines on cover slip, they all may mislead autofocus. Moreover, because image analysis is highly expected in Digital Pathology, specimen fixation will become big issue. In Japan, there is no standardization in fixing solution except for recommendation that is buffered 10% formalin. Even using the same fixative, there are wide range of fixing conditions like the size of fixing tissues, fixing temperature, fixing time, stirring fixatives, etc. To get good results in image analysis that will surely reflect patient therapy, we should stand against fixation issues.

Biography

Ichiro Mori has completed his PhD from Gunma University, and Post-doctoral studies from Tokai University School of Medicine. He is Professor of Department of Pathology, International University of Health and Welfare, School of Medicine. He has published more than 25 papers in reputed journals.

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