9-2022

A Cost-Conscious Whole Slide Imaging System for Teaching and Teleconsultation in Pathology

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Results: A simple, comprehensive 88-item assessment was developed to evaluate baseline DEI data of a pathology residency program. The survey had a response rate of 96%. Demographic data were compiled into an infogram. Grouped data analysis is currently in progress by a third-party organization and includes comparing average scores of each question category for various combined demographic groupings.

Conclusions: A needs assessment is a valuable way to establish a baseline measurement of residency program DEI. We propose a method for creating, validating, and administering a survey-based needs assessment, the results of which can be used to identify actionable items. This survey will be repeated annually to measure ongoing progress of residency culture and DEI initiatives.

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(Poster No. 77)

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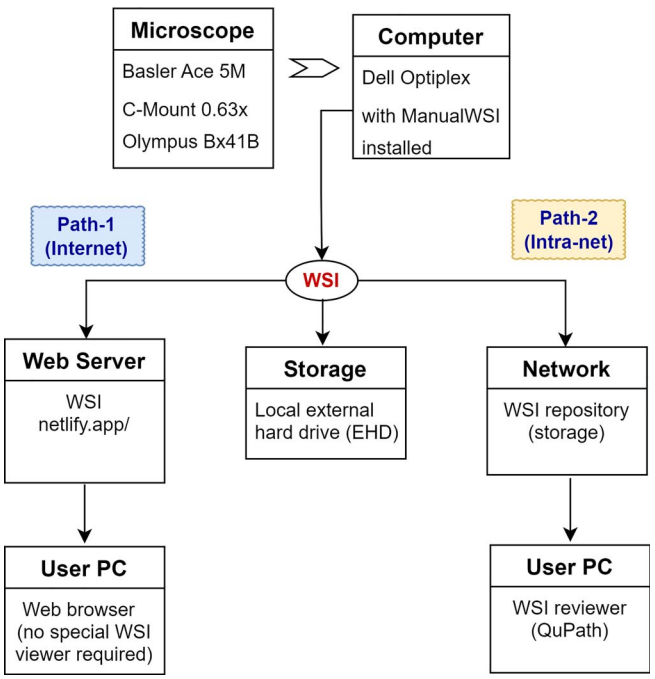
Context: Whole slide imaging (WSI) systems can provide multiple users with concurrent access to slides without the need to be physically present at the same location. However, the cost of an all-in-one WSI system can be prohibitive for programs that do not already use WSI systems at a clinical scale. Here, we delineate a simple, inexpensive WSI system that is easy to implement and meets the need of a resident teaching environment.

Design: A digital camera (Basler acA2500, Mannheim, Germany) is mounted to a brightfield microscope with a 0.63× C-mount and connected to a computer with the manual WSI program (Micro-Visioneer, Esslingen, Germany). Areas of interest on the slide are manually scanned, and the program stitches these images together to create an SVS file. We explored 2 possible access configurations: Web server based and intranet based (Figure 3.77).

3.77 **WSI Flow Illustration**



Results: A collection of slides were manually scanned as described above. To assess the quality of these images, the slides were scanned a second time with an Aperio AT2. Both resulting sets of images were then compared to one another and the original glass slides to ensure suitable concordance of the images.

Conclusions: Our proposed solution for low-cost WSI for teaching and teleconsultation avoids the high upfront cost of an all-in-one packaged solution. High-quality whole slide images comparable to those generated by an Aperio scanner can be easily produced and accessed by multiple viewers simultaneously. Our proposed access solutions are similarly low cost, using open-source software and pre-existing organizational network drives.

Application of an England Finder–Based Quantitative Framework to Anatomic and Clinical Pathology Practice

(Poster No. 78)

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Context: At present a vast majority of pathologists do not routinely use a microscope slide holder and its accompanying coordinate system when examining tissue sections clinically. This practice likely became a dominant work habit because exclusion of a slide holder allows quick placement of slides onto the microscope stage. However, some cases require careful assessment of minute areas of interest, and, in those cases, it is often important to communicate clearly about an exact area of interest such that it could be navigated to by another pathologist. This issue is particularly pertinent to cytopathology and subdisciplines of clinical pathology, hematopathology, and clinical microbiology.

Design: Consequently, we have developed a strategy for employing an existent device (England Finder) that, when used per our specifications, allows for the easy and exact recording of the position of areas of interest. This approach eliminates the need to "dot" slides.

Results: Using our England Finder–based graticule technique, we achieved routine designation of areas of interest well within 250 μm on a slide, enabling identification of small cellular aggregates. Our technologic improvement allows clearer communication among pathologists and can be applied in daily intradepartmental and extradepartmental consultations. To help facilitate future use of this new technology, we developed controlled language termed "Pathology ZIP code" for communicating the area of interest using minimal and unambiguous 5-mark codes.

Conclusions: Thus, we report a means by which any pathologist can describe an area of interest on a slide and aid a colleague in locating that area without annotating the slide itself.

Primary Benign Vascular Tumors of Adrenal Gland: A Clinicopathologic and Radiologic Analysis of 35 Cases

(Poster No. 79)

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Context: Vascular lesions of the adrenal gland are seen infrequently in surgical pathology practice, and mostly single case reports are encountered in literature. They can mimic malignancy and pose diagnostic challenges radiologically and pathologically.

Design: We identified 35 specimens harboring primary adrenal gland vascular/lymphatic lesions from files from 2 institutions (2003–2021). Following Institutional Review Board approvals, the cases were subjected to a detailed clinicopathologic evaluation by 2 genitourinary pathologists and a dedicated vascular radiologist.

Results: There were 15 men and 20 women with an age range of 31 to 86 years (mean, 61). Lesions ranged from 1.5 to 24 cm (mean, 8.6). There were 16 pseudocysts, 12 hemangiomas, 1 arteriovenous malformation (AVM), 2 anastomosing hemangiomas (AHs), 3 lymphangiomas, and 1 intravascular papillary endothelial hyperplasia (IPEH). In pseudocysts, morphologically normal adrenal gland surrounded cystic space filled with blood, but most pseudocysts (>75%) were semisolid or solid. Extensive sampling was required to rule out ruptured malignancy, including pheochromocytoma. Cavernous hemangiomas and lymphangiomas were noninfiltrative and lacked atypia and mitotic activity. AH showed tightly packed capillary channels lined by bland endothelial cells. IPEH lesion was relatively circumscribed but unencapsulated, variably cellular with a pseudopapillary arrangement, admixed with extravasated red blood cells and fibrin. AVM had typical