Utilization of Whole Slide Image Digital Pathology Communication System for Surgical Pathology Quality Assurance Program

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Introduction
Quality assurance program (QA) is an important component of a surgical pathology service and generally employs a multitude of case review methods.

The Department of Pathology at Dartmouth-Hitchcock Medical Center (DHMC) validated and established:
Post-sign out QA program supported by whole slide image (WSI) digital pathology communication system

The QA experience mimics telepathology or second opinion using WSI.

Technology
Whole slide imaging

Digital pathology communication system

Design
Hardware: 2 whole side scanners + WSI server
Software: Corista DP3 Pathology platform
Personnel support: 2 histotechnologists
Case selection: Positive/malignant biopsy cases selected at sign out

QA pathologist has to be different from the original pathologist who signed out the case

Workflow:

Biopsy case signed out

Selected slides + request for QA

LIS

Case accessioned in Corista

Slides scanned

WSI uploaded to data center

WSI + Pathology report imported to Corista

Good WSI quality?

Yes

No

QA pathologist review

Disagree with diagnosis?

Yes

No

Minor disagreement

Consultation

Major disagreement

Consultation

Disagreement documented

Follow departmental QA protocol

Results
The benefits of QA using WSI digital pathology communication system:
- Improved QA workflow
- Reduction in QA steps
- Elimination of glass slide circulation between pathologists
- Improvement of pathologists’ familiarity and comfort to a diagnostic WSI system
- Pathologists’ preparation for WSI telepathology in the future

Conclusion
A case review QA program utilizing a WSI digital pathology communication system significantly improves QA process and its workflow, and indirectly prepares pathologists for diagnostic telepathology in the future.

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