

Slide2Go: A Virtual Slide Collection for Pathology Education

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Abstract

Slide2Go is a collection of digitized glass slides on the Web from a pathology department's slide set for second year medical students. The virtual slide collection can be accessed anywhere using any Web browser with Adobe Flash Player. It simulates the experience of viewing a glass slide under an optical microscope. Rare and unusual cases can be preserved and shared worldwide. Medical education can be enhanced by virtual slides.

Background

In the traditional method of pathology teaching, microscope glass slides of pathology specimens were issued to medical students. Students reviewed the slides using optical microscopes and would individually ask laboratory instructors to point out areas of interest. Disadvantages of this method include: broken slides, incomplete sets and the non-interactive nature of teaching. We wanted find out if virtual slides or digitized glass slides would be beneficial.

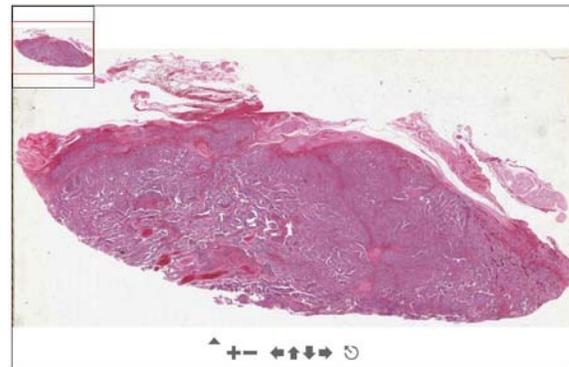
Methods

Glass slides were digitized using a T3 ScanScope scanner. The digitized images, between 40 to 250 megabytes per slide, were converted to JPG images then using Zoomifyer EZ; a large image was partitioned into smaller tiled and tiered images, and then uploaded to an Apache Web server. On a Web browser with Flash Player, the user can move, select, zoom in and zoom out of the digital slide, providing the user an optical microscope perspective. A brief description for each slide is shown below the image. Annotations can be added as needed. Among seven pathology laboratory groups, instructors were given the choice to use the digitized images in conjunction with glass slides or use the digitized images only to illustrate disease morphology. Digitized images were also made available through the Web for registered students.

Discussion

Virtual slides were incorporated into medical student laboratory instruction. Student and laboratory

instructor feedback was positive. There were no comments from faculty that the digitized image quality compromised their ability to illustrate the disease morphology. For labs where glass slides and digitized images were used concurrently, both students and instructors appreciated the opportunity to use the digitized image to help students orient their glass slides. For labs that used digitized images alone, students commented that they appreciated the instructor reviewing the morphology with them on screen prior to reviewing the digitized slide on their computer with their partner or instructor. Students remarked that they appreciated the opportunity to review digitized slides outside of class without transporting their microscope. Student performance among the seven laboratories did not vary regardless of what format was used.



P091 CNS: Retroperitoneum - neuroblastoma/ped

Figure 1. Web browser view of a virtual slide.

Conclusion

The use of digitized images was a positive adjunct for courses continuing to use glass slides. It led to more interactive instructions. The use of digitized images was equal to glass slides for understanding disease morphology. Virtual slides reduce the cost of renting or purchasing microscopes and cost of replacing glass slides. Digitized images allowed students to review slides without a microscope, anytime and anywhere there is Web access.

References

1. <http://images.nlm.nih.gov/pathlab/>