Background

Computer-assisted learning, also known as e-learning, has been successfully implemented to educate students in anatomical knowledge as well as transferrable skills, such as critical analysis, teamwork, leadership and communication [1]. E-learning allows students to self-study material at their own pace and provides a platform for team-based laboratory learning. Several institutions have already integrated histology and physiology in team-based laboratory learning [2, 3], but integration of histology and pathology instruction has been done to a lesser extent.

Objectives

Our aim was to develop an e-learning atlas that integrates microanatomy and pathology instruction for an interdisciplinary pre-clinical medical curriculum.

- A multidisciplinary team of teaching faculty and students developed the MicroAnatomy Atlas (MAA) (microanatomyatlus.com), which includes a library of histology and pathology images.
- Traditional laboratory manual instructions and study objectives [3, 4] were added to a digital interface and made interactive by linking to specific labeled images configured for self-testing.

Methods

13 consenting first-year medical students at a large, urban medical school completed a 7-question, modified Likert scale evaluation prepared by the anatomy and pathology departments to assess the impact of this new teaching tool in the curriculum.

- Students were asked for feedback about the MAA as a whole and, in particular, the cardiovascular histology and pathology images.

Results (continued)

- 92% of students reported that the MAA was an easy and effective study tool that positively improved their understanding of both histology and pathology.

Discussion

Preliminary data shows positive student interest and enthusiasm for the MAA as a useful tool in histology and pathology education.

- Most students who used the website were strongly in favor of MAA as an effective e-learning aid to the histology and pathology curriculum and planned on using it in upcoming organ systems.

Conclusions

The MicroAnatomy Atlas has proved to be an effective and efficient tool for self-study of histology and pathology of the cardiovascular system.

- Most of the students who used the MAA enjoyed using the atlas and found it to be a productive use of study time that they would recommend to their peers.

In the future, we plan on expanding the pathology library of the MAA to include pathology images from the remaining organ systems, as well as clinical case studies.

- A similar modified Likert scale evaluation of the gastrointestinal histology and pathology section will be conducted.

We will continue to improve the functionality and user-friendliness of this tool as we receive feedback from the growing number of students using the MAA.

References


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