Using virtual microscopy to deliver an integrated oral pathology course for undergraduate dental students

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Introduction

Traditionally, UK dental students study oral histopathology using light microscopes in laboratory classes. This approach does little to integrate oral pathology into a clinical context and may make it difficult for students to be enthusiastic or see the relevance of learning about histopathology.

The Sheffield oral pathology course was modified by the introduction of virtual microscopy (VM) to create a more integrated and clinically orientated approach to student engagement in histopathology.

Aim

To describe student views and our experience of introducing VM into integrated oral pathology teaching.

Materials and Methods

To what extent do you agree with the following statements about your experience of using the virtual microscopy resource?

- I found the virtual microscope viewer easy to access and use in class
- The quality of images was excellent
- I was able to use the magnification function with no difficulty
- I understood the questions associated with the images
- I found the in-class exercises useful
- Tutors provided valuable help in using the virtual microscope
- Reviewing the exercises at the end of the class was useful

To what extent do you agree that the virtual microscopy resource assisted you in the following areas of oral pathology?

- Understanding the pathological basis of oral disease
- Recognising the clinical features of oral pathology
- Articulating a rationale for clinical treatment
- Feeling confident about your knowledge of oral pathology
- Preparing yourself for future assessment
- Motivating you to study oral pathology

Focus groups identified several advantages of VM compared with conventional microscopy, including:

- Less time spent refocusing conventional microscopes
- Images could be viewed by more than one person at a time
- Less straining on their eyesight
- Opportunity for distance learning

Discussion

- Feedback extremely positive
- VM has now been fully integrated into the undergraduate dental curriculum for teaching histology and histopathology.
- Course contains 20 VM practical classes in years 1, 2 and 4
- Case seminars with VM for final year students
- VM used in postgraduate oral pathology courses and specialist meetings

Our experiences of using VM to teach histopathology are similar to those described in other countries. In Australia, Farah and Maybury found that 77% of their dental students preferred VM to traditional slides and 89% reported enhanced learning. Recent reports from the United States, Brazil and Poland have also indicated a positive impact for VM.

Conclusion

Students are positive about VM and integrated learning which has now been successfully introduced into all aspects of undergraduate and postgraduate oral pathology and histology teaching.

References