

## REFERENCES

- Louie JK, Acosta M, Winter K, et al. Factors associated with death or hospitalization due to pandemic 2009 influenza A(H1N1) infection in California. *JAMA* 2009;302:1896–1902.
- Influenza diagnostic testing during the 2009–2010 flu season. Centers for Disease Control and Prevention Web site. Available at: [http://www.cdc.gov/h1n1flu/diagnostic\\_testing\\_public\\_qa.htm](http://www.cdc.gov/h1n1flu/diagnostic_testing_public_qa.htm). Accessed November 24, 2009.
- Dugel PU, Ober RR. Posterior segment manifestations of closed-globe contusion injury. In: Ryan SJ, Wilkinson CP, eds. *Retina*. Vol 3. 3rd ed. St. Louis, Mo.: Mosby; 2001:2386–99.
- Rabon RJ, Louis GJ, Zegarra H, Gutman FA. Acute bilateral posterior angiopathy with influenza A viral infection. *Am J Ophthalmol* 1987;103:289–93.
- Jo T, Mizota A, Hatano N, Tanaka M. Frosted branch angiitis-like fundus following presumed influenza virus type A infection. *Jpn J Ophthalmol* 2006;50:563–4.

Omar S. Faridi,\* Tusbar M. Ranchod,† Lawrence Y. Ho,† Alan J. Ruby†

\*William Beaumont Hospital, and †Associated Retinal Consultants, Royal Oak, Mich.

Correspondence to Omar S. Faridi, MD: [omfaridi@gmail.com](mailto:omfaridi@gmail.com)

*Can J Ophthalmol* 2010;45:286–7  
doi:10.3129/i10-030

### OphthoStudent.com: collaborative learning in ophthalmology for medical students

In addition to traditional classroom lectures, medical education today employs a variety of innovative learning modalities, such as problem-based and game learning, in order to appeal to students with different learning styles. Ophthalmology teaching at this level, however, is still largely didactic with little opportunity for interaction. Because there is little time devoted to ophthalmology in medical school curricula, medical students are at risk of being inadequately trained to deal with ophthalmic complaints.<sup>1</sup>

Interactive computer-based modules benefit preclinical medical students by helping them learn more effectively through an active approach.<sup>2</sup> To integrate this approach into preclinical ophthalmology education, a web site was created ([www.opthostudent.com](http://www.opthostudent.com)) with interactive, quiz-style questions where students are able to (i) evaluate their knowledge of ophthalmology, (ii) discuss question content or structure, which other users can access and contribute to, and (iii) submit their own questions or cases.

The web site, part of the QuizMD ([www.quiz.md](http://www.quiz.md)) framework of teaching sites, currently has 123 student-created questions covering many aspects of ophthalmology, including diagnosis, etiology, pathophysiology, and management; clinical cases are also being developed to stimulate problem-solving skills (Fig. 1). Input and feedback from practising ophthalmologists ensure that the content is accurate and relevant. Similar undergraduate QuizMD sites are in use for plastic surgery ([www.plasticstudent.com](http://www.plasticstudent.com)), pediatrics ([www.pedscases.com](http://www.pedscases.com)), and other areas.

With 1565 total responses to 123 questions (average 12.6 responses/question), OphthoStudent.com has received significant interest from student users. In the last 12 months, 1603 unique users have viewed ophthalmology-related content, translating to 10.7% of total QuizMD content visits ( $n = 14\ 899$ ). Questions tagged “ophthalmology”

constitute ~10% of all QuizMD questions. Sixty-eight of the 123 questions are cross-tagged to at least 1 other QuizMD subsite, the most popular being emergency medicine (23 questions), pediatrics (20 questions), and neurology (12 questions). Individuals who created questions for OphthoStudent.com were also likely to create questions for other QuizMD sites; these individuals created a total of 207 non-ophthalmology questions. The QuizMD parent site has viewers from 139 countries other than Canada (Fig. 2), a trend mirrored in OphthoStudent.com.

Respondents' success in answering correctly varied, depending on the question, with an average of 70.4% correct responses. Of 115 attempted questions on the site, 54 were answered correctly at least 80% of the time, and 14 questions were answered correctly less than 40% of the time. This suggests that the range of questions is appropriately challenging and, therefore, educational for the medical student visitors.

OphthoStudent.com is a student-driven, innovative modality that enhances current didactic methods. This type of peer education not only improves learning outcomes but also fosters leadership skills, self-evaluation, and clinical reasoning abilities.<sup>3</sup> As such, we hope that more students will use the web site, thereby improving their own education and the website through their contributions. Possible future development includes subcategor-



Fig. 1—Case-based questions allow students to expand their knowledge with practical, real-life clinical scenarios.

izing questions (e.g., neuro-ophthalmology, pediatric ophthalmology), adding new questions, and adding detailed explanations to the answers.

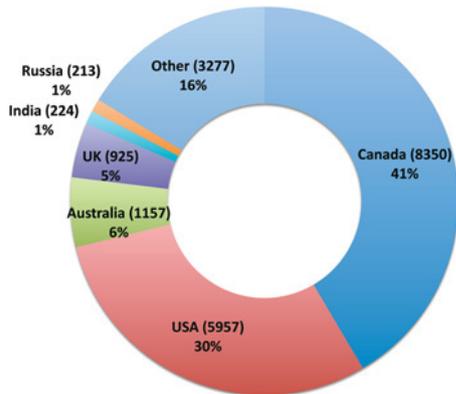


Fig. 2—Visitors to QuizMD by country of origin (total of 20 103 visitors over 12 months). Traffic to OphthoStudent.com is approximately 10% of all traffic to QuizMD.

REFERENCES

1. International Task Force on Ophthalmic Education of Medical Students, International Council of Ophthalmology. Principles and guidelines of a curriculum for ophthalmic education of medical students. *Klin Monatsbl Augenheilkd* 2006; 223(Suppl 5):S1–19.
2. Bryner BS, Saddawi-Konefka D, Gest TR. The impact of interactive, computerized educational modules on preclinical medical education. *Anat Sci Ed* 2008;1:247–51.
3. Secomb J. A systematic review of peer teaching and learning in clinical education. *J Clin Nurs* 2008;17:703–16

Nawaaz Nathoo,\* Jalal A. Nanji,\* Ian Sutanto,\* Daniel Kozan,\* Christopher J. Rudnisky†

\*Faculty of Medicine and Dentistry, and †Department of Ophthalmology, University of Alberta, Edmonton, Alta.

Correspondence to Christopher J. Rudnisky, MD: crudnisk@ualberta.ca

Can J Ophthalmol 2010;45:287–8  
doi:10.3129/i09-233

Silicone oil–induced bilateral granulomatous uveitis

A 65-year-old male with hypertension, aortic bypass surgery, femoral artery aneurysm, transient ischemic attacks, and Waldenström’s macroglobulinemia presented with vitreous hemorrhage and nontraumatic retinal tear OS. The retinal tear was treated with laser photocoagulation. One month later, vitreous hemorrhage recurred and did not clear for 2 months. A pars plana vitrectomy with gas tamponade was carried out. One month postoperatively, total retinal detachment with proliferative vitreoretinopathy grade D-3 developed. Repeat vitrectomy, extensive membrane dissection, laser endophotocoagulation, and perfluorocarbon liquid injection followed by silicone oil/perfluorocarbon exchange were carried out. Postoperatively,

the retina was initially reattached but, 2 months later, a cyclitic membrane formed, followed by phthisis.

One month later, the patient complained of floaters in the previously normal fellow eye. Visual acuity was 20/30 OD. There was granulomatous anterior uveitis. Ophthalmoscopy revealed vitreous cells, optic disc edema, and small multifocal deep retinal or choroidal yellowish nodules predominantly anterior to the equator. For diagnostic reasons, enucleation of the phthisical OS was carried out.

Histopathologic study of the enucleated OS showed chronic inflammatory cells and large vacuolated spaces in the cyclitic membrane and retina and in macrophages and foreign body giant cells (Fig. 1). No histopathologic features of sympathetic ophthalmia were identified. Electron microscopy of the vacuoles within the cytoplasm

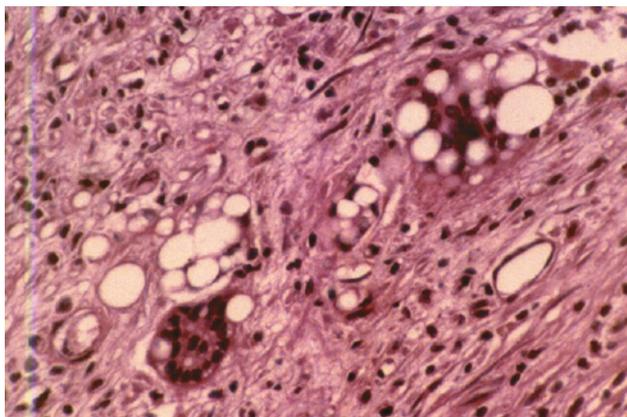


Fig. 1—Histopathologic staining of enucleated eye showing evidence of individual macrophages, as well as foreign body giant cells containing vacuoles (hematoxylin and eosin; original magnification × 100).

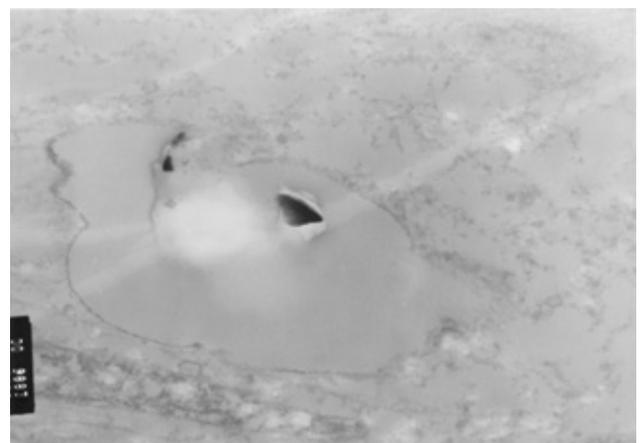


Fig. 2—Electron photomicrograph of same specimen showing a vacuole in a foreign body giant cell.