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# *CytoJournal Quiz Cases: Publishing Open-Access, PubMed-Searchable Cytopathology Cases with Educational Messages*

Katherine G. Akers

*Wayne State University*, katherine.akers@wayne.edu

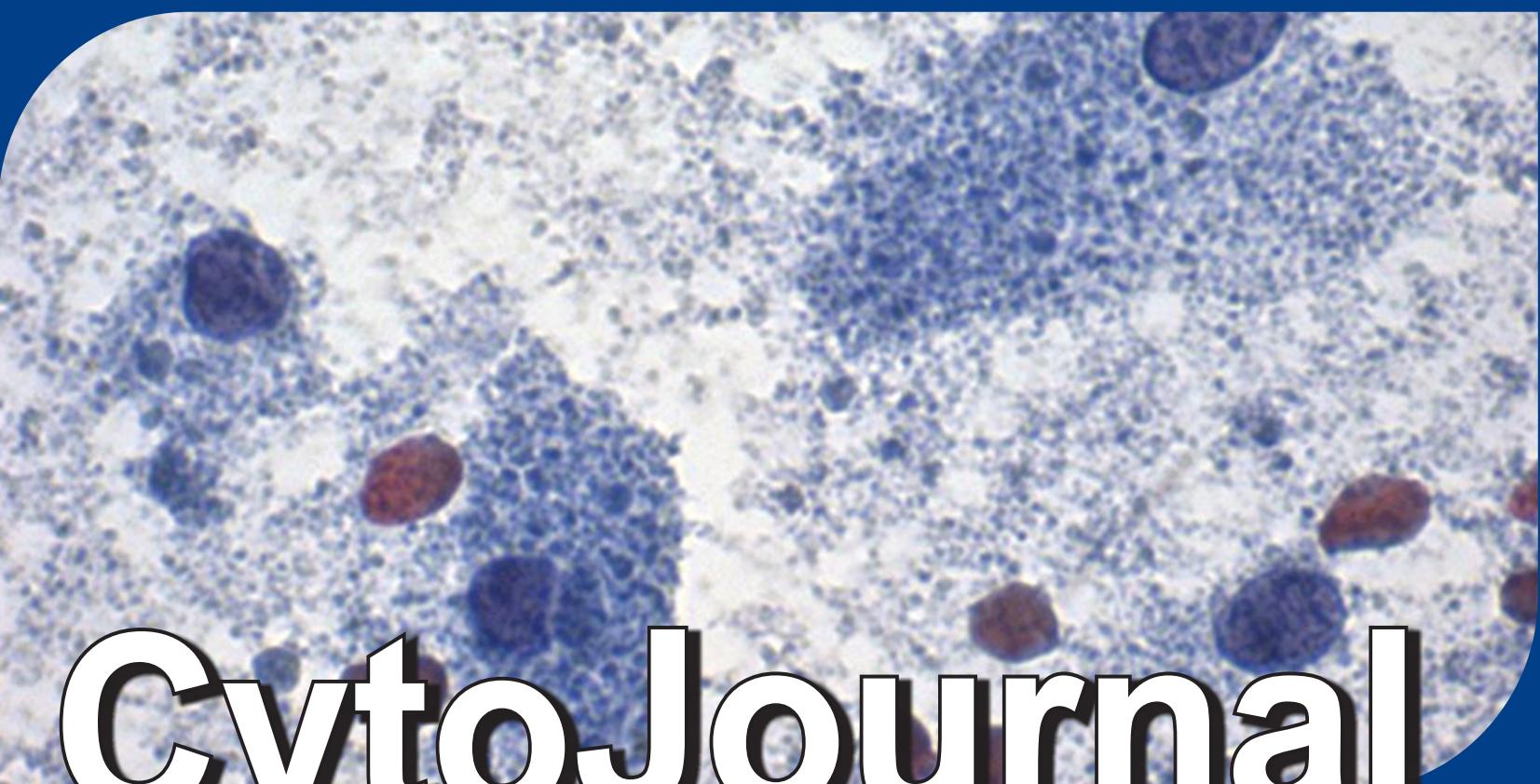
Vinod B. Shidham

*Wayne State University*, vshidham@med.wayne.edu

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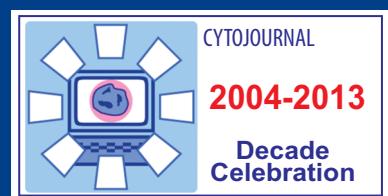


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## Editorial

### CytoJournal Quiz Cases: Publishing open-access, PubMed-searchable cytopathology cases with educational messages

Katherine G. Akers, Vinod B. Shidman<sup>1\*</sup>

Address: Shiffman Medical Library, Wayne State University, <sup>1</sup>Department of Pathology, School of Medicine, Wayne State University, Detroit, MI, USA

E-mail: Katherine G. Akers - katherine.akers@wayne.edu; Vinod B. Shidman\* - vshidham@med.wayne.edu

\*Corresponding author

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Since at least the era of Hippocrates and perhaps as far back as Ancient Egypt,<sup>[1]</sup> case reports have been an important form of medical communication. Traditionally, case reports are descriptions of unusual or novel clinical occurrences detailing the symptoms, diagnosis, treatment, and/or outcomes of individual patients. Case reports have been essential for disseminating new pieces of medical knowledge, such as the recognition of new diseases, diagnostic challenges, the detection of adverse drug effects, and the discovery of previously unknown associations between conditions. For instance, case reports were vehicles for the first descriptions of histopathological abnormalities in the brain of a woman with dementia, later known as Alzheimer's disease;<sup>[2]</sup> the presence of Kaposi's sarcoma and immunoregulatory defects in homosexual men, now recognized as features of AIDS;<sup>[3]</sup> and recently, the occurrence of fetal microcephaly in a pregnant woman infected with Zika virus.<sup>[4]</sup>

Over the last several decades, however, the value of case reports has been questioned. With the rise of evidence-based medicine, case reports have been relegated to the bottom of the hierarchy of evidence.<sup>[5]</sup> Because case

reports are uncontrolled and often describe only a single patient, they cannot provide evidence of causality and do not produce generalizable knowledge. Case reports that describe rare occurrences may not be useful to most practitioners,<sup>[6]</sup> and some believe that case reports can even cause harm by drawing attention to extremely unusual circumstances.<sup>[7,8]</sup> Furthermore, case reports are not frequently cited in the literature,<sup>[9]</sup> which reduces the impact factors of the journals in which they are published. Considerations such as these have led some journals to cease publishing case reports altogether or to severely restrict the number of case reports per issue.

Emerging from the debate over the value of case reports, however, is the consensus that case reports still do serve a purpose in an evidence-based medicine world.<sup>[10]</sup> In particular, case reports are increasingly seen as having educational value,<sup>[11,12]</sup> giving readers a chance to encounter different clinical scenarios and reflect upon their own decision-making and practice. Reading case reports can help physicians develop the "pattern recognition" skills<sup>[13]</sup> necessary for distinguishing between conditions with similar presentations, avoiding diagnostic pitfalls, recognizing unusual disease courses, or identifying unexpected outcomes of a treatment. Although case reports are not frequently cited, they can be among the most highly read articles in a journal because they are short and entertaining, with benefits comparable to a storytelling approach.<sup>[14,15]</sup> Moreover, writing a case report is a relatively quick and easy way for young healthcare professionals to begin engaging in scholarship and to meet growing expectations to publish.<sup>[16,17]</sup> Therefore,

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in response to the changing status of case reports in medical publishing, new journals have launched that exclusively publish case reports,<sup>[18]</sup> and the format of some journals' case reports has been adapted to emphasize their educational value.<sup>[5]</sup>

## INTRODUCING CYTOJOURNAL QUIZ CASES

*CytoJournal* continues to publish case reports describing rare phenomena or clinical associations. However, it recently introduced a new type of article – the Quiz Case – that presents any clinical case, including relatively common cases, in a quiz format to directly communicate its teaching points. *CytoJournal* encourages Quiz Case submissions that describe solutions to confusing diagnostic situations or that highlight diagnostic “pitfalls,” which serve to remind readers about the cytopathological characteristics of particular diseases or the diagnostic utility of certain cytological techniques. *CytoJournal* expects that Quiz Cases will not be restricted to only extremely unusual clinical situations. In fact, because cases that are extremely rare may not have much educational value,<sup>[19]</sup> *CytoJournal* prefers Quiz Case articles that describe any case with an educational message that is relevant to a broad readership. If you have an interesting case that is not particularly novel but that has clear teaching points, *CytoJournal* encourages you to submit it as a Quiz Case rather than a case report. Likewise, upon receiving a case report submission, *CytoJournal* editors may ask authors to reformat and resubmit the manuscript as a Quiz Case. To ensure their integrity and quality, Quiz Case submissions go through a modified peer review process usually performed by the members of the *CytoJournal* Quiz Case section team prior to the editorial decision.

## WRITING A QUIZ CASE ARTICLE

*CytoJournal* Quiz Cases are structured differently than regular case reports. First, the patient's clinical history and representative cytological images are presented, followed by a challenging multiple-choice quiz question related to the primary teaching message. Next, an answer to the quiz question is provided along with a brief discussion of the issue and any important patient follow-up information. Finally, three to four additional multiple-choice quiz questions related to the topic are presented, followed by their answers and a brief review of the overall topic. To aid in the preparation of a Quiz Case, *CytoJournal* encourages prospective authors to consult previously published Quiz Cases.<sup>[20-22]</sup> To help prospective authors understand the layout and length of the text in each Quiz Case section and on each page, *CytoJournal* provides a Quiz Case article template ([http://www.cytojournal.com/downloads/104h\\_CytoJournal\\_Quiz\\_Case\\_Bank\\_Template.pdf](http://www.cytojournal.com/downloads/104h_CytoJournal_Quiz_Case_Bank_Template.pdf))

([http://www.cytojournal.com/downloads/104h\\_CytoJournal\\_Quiz\\_Case\\_Bank\\_Template.pdf](http://www.cytojournal.com/downloads/104h_CytoJournal_Quiz_Case_Bank_Template.pdf)). Screen shots of individual pages of the blank *CytoJournal* Quiz Case article template with approximate word counts for each segment are shown in Figures 1-3. Additional guidance is provided in the “Author corner” of the *CytoJournal* webpage (<http://www.cytojournal.com/contributors.asp>).

### Topic selection

Before beginning to write your Quiz Case, think about the purpose of your article and why readers would benefit from reading it.<sup>[23]</sup> Pick a case that serves as a valuable reminder of a useful cytological technique, how to distinguish between two similar conditions or diseases, or how to arrive at an accurate diagnosis under confusing circumstances.

### Title

Come up with a title for your Quiz Case as a last step, after you have written the body of the manuscript. Choose a title that is descriptive or informative rather than clever or

Please use one of the published Quiz Cases as example:  
CytoJournal 2015, 12:10 [http://www.cytojournal.com/temp/CytoJournal/12110-5971458\\_163514.pdf](http://www.cytojournal.com/temp/CytoJournal/12110-5971458_163514.pdf)

**CytoJournal**

**Article title**

Authors Name  
Address  
E-mail  
\*Corresponding author

The authors should submit the word file (with tables if any) and images in JPEG with word limitations and image / figure sizes, suitable to the final PDF layout in which the Quiz Case will be published if accepted for publication after review.

Pertinent Clinical history to guide the Quiz.  
Less than 450 characters (70 words)

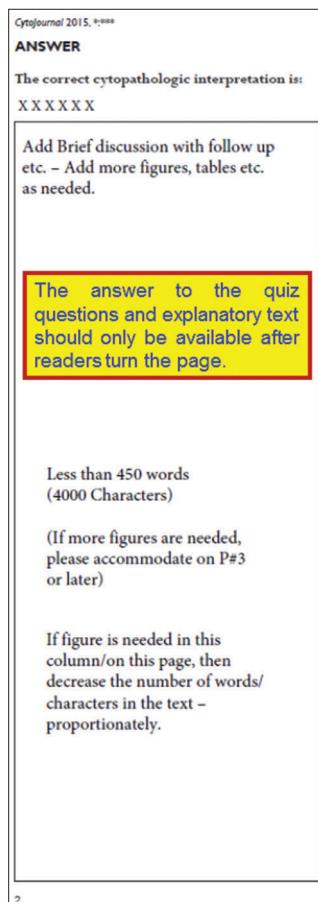
Figure 1  
(This should be sufficient to address the first Quiz question – It may be combination of multiple images)

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DOI: [DOI]

WHAT IS YOUR INTERPRETATION?  
(OR other relevant comparable brief question)  
A  
B  
C  
D

See next pages for answer and additional Quiz questions.

**Figure 1:** Layout of first page for the final PDF of *CytoJournal* Quiz Cases ([http://www.cytojournal.com/downloads/104h\\_CytoJournal\\_Quiz\\_Case\\_Bank\\_Template.pdf](http://www.cytojournal.com/downloads/104h_CytoJournal_Quiz_Case_Bank_Template.pdf))



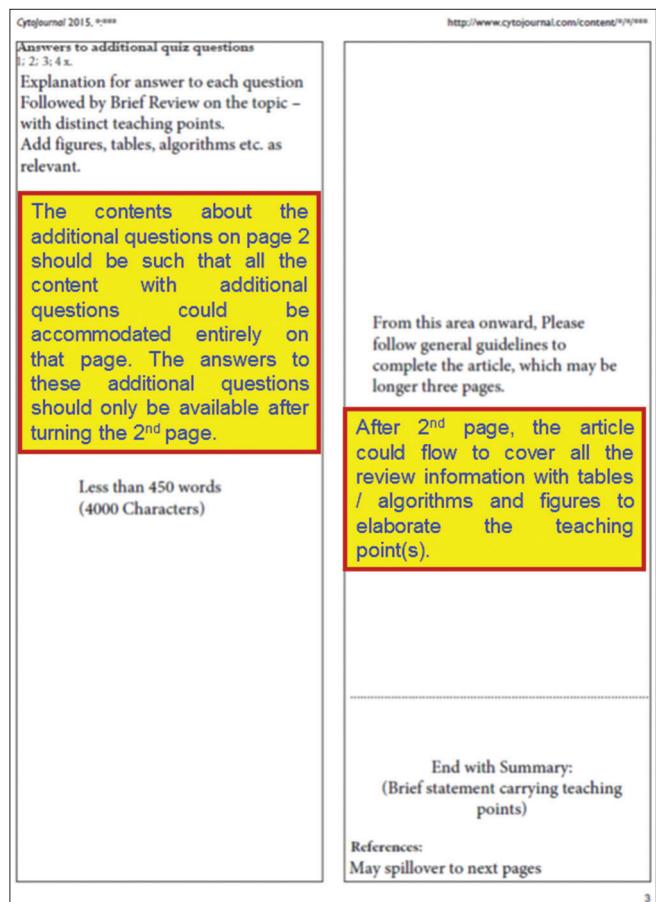
2

**Figure 2:** Layout of second page for the final PDF of CytoJournal Quiz Cases ([http://www.cytojournal.com/downloads/104h\\_CytoJournal\\_Quiz\\_Case\\_Bank\\_Template.pdf](http://www.cytojournal.com/downloads/104h_CytoJournal_Quiz_Case_Bank_Template.pdf))

cute to avoid confusing readers. It is often appropriate to include the phrases “a case of” or “a patient” in the title so that potential readers will know that you are describing a single patient before consulting the main text. To preserve the mystery of your Quiz Case, make sure that the title does not give away the answers to your quiz questions, but strive to generate thought-provoking curiosity related to your topic.

## Authors

Despite a trend toward an increasing number of authors of articles in medical journals,<sup>[24]</sup> Quiz Cases should generally have no more than 3–4 authors, without including every person involved in managing the patient. According to the International Committee of Medical Journal Editors,<sup>[25]</sup> authorship should be reserved for individuals who make a substantial contribution to the conception or design of the work or the acquisition, analysis, or interpretation of the data; who make an intellectual contribution to the drafting or revision of the manuscript; who approve of the final version of the manuscript; and who agree to be accountable for all aspects of the work.



3

**Figure 3:** Layout of pages after second page for the final PDF of CytoJournal Quiz Cases ([http://www.cytojournal.com/downloads/104h\\_CytoJournal\\_Quiz\\_Case\\_Bank\\_Template.pdf](http://www.cytojournal.com/downloads/104h_CytoJournal_Quiz_Case_Bank_Template.pdf))

## Introductory details

Quiz Cases start with relevant patient clinical history together with cytomorphological findings reflected in high-quality, self-explanatory images. Because the description of clinical history is very brief (i.e., 70 words or 450 characters maximum), only the most pertinent details should be included. If additional information is required, it may be provided in a later section on the next page of the article. A single figure, which can consist of multiple panels of cytological images (e.g., low and high magnification with arrows and appropriate labeling, different stains), is presented below the clinical history and is accompanied by a figure caption explaining the content of the images. Please note that if you wish to use a previously published image, you must obtain permission from the original publisher (or for open access articles, please assign due credit to the copyright holder by citing all reference details about the original publication) before the submission of your Quiz Case. Together, the description of the patient’s clinical history and the figure should provide enough information to allow readers to reasonably reach a conclusion and

facilitate the correct selection of the answer to the quiz question.

### **Quiz questions**

We ask that you prepare a total of four to five quiz questions. The first quiz question, usually worded "What is your interpretation?" or a comparable question pertaining to the patient's diagnosis, appears on the first page of the article after the description of the patient's clinical history and initial cytopathological findings. The other three to four quiz questions, which appear on the next page of the article, test readers' further knowledge on the topic. All quiz questions should be in multiple-choice format, consisting of a lead-in question followed by four to five options (i.e., one correct answer and three to four thought-provoking distractors). Formulate quiz questions that focus on important pieces of knowledge or concepts that can be clinically applied rather than trivial facts. For further guidance on how to write good multiple-choice questions, consult the National Board of Medical Examiners' manual for "Constructing Written Test Questions for the Basic and Clinical Sciences,"<sup>[26]</sup> which is available for free online.

### **Answer to quiz questions and brief discussion**

The answers to the quiz questions appear on the pages immediately following the questions so that readers cannot see the answers until testing their knowledge. After disclosing the correct answers, provide a brief discussion of the issues, relying on previously published literature.

### **Patient follow-up information**

After discussing the answer to the first quiz question, patient follow-up information can be provided, including the results of additional relevant diagnostic tests and a description of the treatment strategy and patient outcomes. Additional figures can be included if they add to the educational value of the case. When describing your single patient, avoid making generalizations or inferences; instead, simply state the facts.

### **Brief review of the topic**

The goal of the final part of the article is to synthesize existing knowledge of a condition or disease while highlighting its unique cytopathological features and appropriate diagnostic techniques. For example, you could provide an overview of a particular condition or disease, its clinical presentation and common co-morbidities, common pitfalls during cytopathological evaluation and interpretation, tips for differential diagnosis, and/or its prognosis and usual treatments. Additional figures (e.g., images, diagrams, algorithms) or tables can be included. An optional "Summary" (not "Conclusion") section could be used to reiterate the teaching points

arising from your case and to suggest opportunities for further research or development of new diagnostic techniques.

### **SUMMARY**

Although your Quiz Case will undoubtedly contain multiple teaching points, try to keep those teaching points centered on one topic, and do your best to convey a single educational message so that readers come away with a clear idea of how to recognize and respond to a similar clinical situation in their own practice. Your initiative to submit a Quiz Case to *CytoJournal* may result in a high-impact contribution to medical education that is indexed in the major biomedical database PubMed (<http://www.ncbi.nlm.nih.gov/pubmed>), thereby improving global health services in cytopathology with a wide dissemination through *CytoJournal*'s open access charter. *CytoJournal* looks forward to receiving your Quiz Case submissions.

### **COMPETING INTERESTS STATEMENT BY ALL AUTHORS**

The authors declare no competing interests.

### **AUTHORSHIP STATEMENT BY ALL AUTHORS**

KGA and VBS wrote the manuscript.

### **ETHICS STATEMENT BY ALL AUTHORS**

This editorial was not subject to ethical board approval.

### **LIST OF ABBREVIATIONS** (In alphabetic order)

None.

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