Response to Comments in “Endolymphatic Hydrops and Cerebrospinal Fluid Pressure,” by Anthony Gordon

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The exact etiology of hearing loss in the patient we presented remains unproven. It is not practical or ethical to go back and re-create the scenario and see if the hearing loss returns if cerebrospinal fluid (CSF) pressure rises. However, this patient clearly presented with a progressive bilateral sensorineural hearing loss (SNHL) seen on 3 different audiograms done by 2 different audiologists over a period of 2 months and clearly had signs of increased intracranial pressure (ICP), including progressive headaches. She did not complain of any vertigo or disequilibrium. No intervention other than an unsuccessful trial of steroids was given to this patient until the shunt was performed by neurosurgery. Her headaches and hearing loss quickly resolved, with an audiogram documenting return to normal levels.

It is precisely the uncommon occurrence of this scenario that led to our case report and review. It is well recognized that low-pressure CSF states are more commonly associated with SNHL, although a hearing loss is certainly not present in most patients with a low pressure in their CSF. Why are not all such patients experiencing hearing loss? It seems likely there must be an anatomic variant seen in some but not all patients with low CSF pressure that predisposes them to hearing loss.

The comment that the hearing loss seen in our patient may be associated hydrops is possible, but I do not believe that a finding of endolymphatic hydrops is necessary to cause SNHL. If abnormal pressure is exerted on the cochlea through an anatomic variant such as an abnormally patent cochlear aqueduct, then is it not possible that fluid or electromechanical function of the cochlea or VIII nerve could be affected? Our patient did not demonstrate any vestibular symptoms typically found in hydrops associated with Ménière’s disease. Indeed, she may have not developed hydrops. Clearly, she did have a significant bilateral SNHL that resolved after appropriate treatment for her increased ICP.

The major point of our case report was to make practitioners aware that in patients who present with progressive bilateral hearing loss and headaches, consideration should be given to checking for increased ICP.

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The Mortality Observed-to-Expected Ratio in Otolaryngology

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I commend Bennett et al1 for their extremely thoughtful, multifaceted approach to examining and improving the mortality observed-to-expected (O:E) ratio in an academic department. The authors report 3 different approaches to improving the O:E ratio. One was to better classify comorbidities, to more accurately characterize the true mortality risk of their population. One was to more appropriately refer patients with terminal disease to palliative care. A third was to improve preoperative evaluation and management of comorbidities, thereby reducing the actual mortality in their surgical population.

Although it is certainly important to better characterize the population one treats in order that statistical measures such as the O:E ratio may fairly reflect performance, I wish that the authors had put more stress on the fact that an examination of their O:E ratio also led to a change in clinical care and a reduction in actual mortality, which seems to me the most important finding. This work is an outstanding example of how externally imposed benchmarks can highlight opportunities for practicing physicians to improve their care. Attention to the O:E ratio at Vanderbilt clearly seems to have saved some patients’ lives.

Once again, I applaud the authors and their department for a comprehensive, multifaceted approach to improving performance on an external benchmark. I only wish to more strongly emphasize that that the improvements appear to have come both from improving the accuracy of measurement but also (and more importantly) through life-saving improvements in care. I sincerely hope this article stimulates other practices to examine their own O:E ratios with similar goals.

David W. Roberson, MD
Department of Otolaryngology,
Boston Children’s Hospital and Harvard Medical School,
Boston, Massachusetts, USA
Email: David.roberson@childrens.harvard.edu

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Raleigh Jones, MD
University of Kentucky, College of Medicine
Lexington, Kentucky, USA
Email: rjone1@uky.edu
Response to: “The Mortality Observed-to-Expected Ratio in Otolaryngology,” from Roberson
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We thank Dr Roberson for his insightful and very kind remarks. We solidly agree with him that the most important element of this ratio is attention to actually save lives. In addition, we agree that any study looking at quality interventions in the hospital setting is subject to limitations from the unintended Hawthorne effect. Simply stated, quality studies may show improvement simply from the creation of the study and not from meaningful improvement to the system or organization. Although this phenomenon is commonly noted in quality research, it is extremely difficult to quantify the extent of the effect.1

Governmentally run programs are looking to develop methods for differential payments based on stratification of quality of care. Along with readmissions, cost of care, and use of services, we expect the mortality observed to expected (O:E) ratio to play a significant role in the stratification of programs and providers. Morbidity and mortality are no longer about dealing with “irreducible minimums” and “the cost of doing business” with very sick patients.

Marc Bennett, MD
Department of Otolaryngology, Vanderbilt University,
Nashville, Tennessee, USA
Email: Marc.bennett@vanderbilt.edu

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