LETTERS TO THE EDITOR

Lung Abscess Caused by *Aeromonas hydrophila*

To the editor:

Aeromonas hydrophila is a gram-negative bacillus rarely identified as a human pathogen except in immunologically compromised patients or in patients who have aspirated contaminated water in a drowning episode. We report a case of a lung abscess caused by *A hydrophila* isolated in sputum and bronchial aspirate in an immunocompetent patient who had not aspirated water.

The patient was an 81-year-old woman who came to the emergency department with blood-stained sputum, dyspnea, and 10-days' temperature. Medical history included chronic underweight and gastroesophageal reflux. Physical examination showed the patient was conscious and orientated. She had a dental prosthesis, weighed 34 kg, and had a temperature of 38ºC, a breathing rate of 32 breaths per minute, and oxygen saturation of 94%. Lung auscultation revealed crackles in the middle of the upper left lung Results of blood analysis taken on hospital admission showed hemoglobin to be 9.4 mg/dL; hematocrit, 28.8%; white blood cells, 6 10/L (76.3% neutrophils, 16.1% lymphocytes, 5.5% monocytes, and 1.2% eosinophils); platelets, 726 10^9/L; sedimentation rate, 121 mm/h, and albumin, 2.1 g/dL. The Mantoux test was negative. Chest x-ray revealed cavitation in the upper right lobe. A computed tomography scan of the chest confirmed the presence of the cavitation, which had a maximum diameter of 10 cm, an irregular internal wall, and an air-fluid level (Figure). Two blood cultures were negative. Fiberoptic bronchoscopy gave no evidence of endobronchial lesions but a very small amount of blood was observed coming from the bronchus of the upper left lobe. The bronchial aspirate showed *A hydrophila* growth responsive to ciprofloxacin and cefuroxime and resistant to ampicillin. Sputum culture was also positive for *A hydrophila,* with the same antibiogram as the bronchial aspirate and both samples had negative auramine stains. Microbacterial and fungal cultures were both negative. Cytology was negative for cancer cells. Bronchial lavage and transbronchial biopsy were not performed because of poor tolerance of the procedure, during which severe oxygen desaturation developed. Antituberculosis treatment was initially started but replaced with ciprofloxacin and cefuroxime when the microbiological results were known. Clinical improvement was apparent with normalization of temperature and a chest x-ray taken 3 weeks later showed a 50% reduction in the lesion.

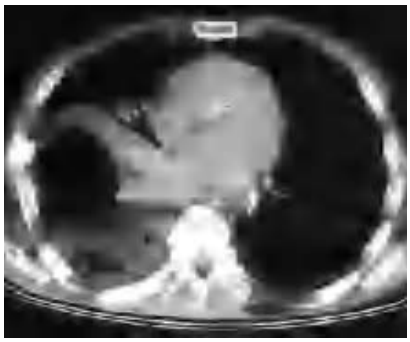

Figure. Computed tomography scan of the thorax showing cavitation with an air-fluid level in the upper right lobe.

The genus *Aeromonas,* formerly included in the *Vibrionaceae* family, constitutes mainly gram-negative, oxidase-positive, facultatively anaerobic bacteria. Molecular genetics has reclassified the genus into the *Aeromonadacea* family. Aeromonads are ubiquitous bacteria whose natural habitat is fresh or brackish water.[1] Most infections described correspond to lesions incurred in water, acute gastroenteritis, and septicemia in immunocompromised patients.[2] The role of aeromonads as causal agents of hepatobiliary and pancreatic infections has recently been recognized.[3] Very occasionally *A hydrophila* has been described as a causal agent of respiratory tract diseases, usually when there has been aspiration or signs of bilateral diffuse disease, leading to adult respiratory distress syndrome and high mortality (40%).[4] To date, only 2 cases of lung abscess without prior immunocompromise have been described (1 after a near drowning incident).[5,6] As in our patient, these cases involved resistance to ampicillin and treatment with cefuroxime was successful. We must add this bacillus to the long list of causes of pulmonary cavitation.

J.J. Blanco Pérez,[a] M. Tumbeiro Novoa,[a] and I. Paz Vidal[b]

[a]Servicio de Neumología, Complexo Hospitalario Ourense, Ourense, Spain.
[b]Servicio de Microbiología, Complexo Hospitalario Ourense, Ourense, Spain.

1. Steinberg JP, del Río C. Other gram-negative bacilli. In: Mandell G, Bennet J, Dolin R, editors. Principles and practice of infectious diseases. Vol. 2. Philadelphia: Churchill Livingstone; 2000. p. 2461-2.
2. Ko WC, Chuang YC. Aeromonas bacteremia: review of 59 episodes. Clin Infect Dis. 1995;20:1298-304.
3. Clark NM, Chenoweth CE. Aeromonas infection of the hepatobiliary system: report of 15 cases and review of the literature. Clin Infect Dis. 2003;37:506-13.
4. Reines HD, Cook FV. Pneumonia and bacteremia due to Aeromonas hydrophila. Chest. 1981;80:264-7.
5. Hur T, Cheng KC, Hsieh JM. Aeromonas hydrophila lung abscess in a previously healthy man. Scand J Infect Dis. 1995; 27:295.
6. Gaussorgues P, Bachmann P, Tigaud S, Piperno D, Jaboulay JM, Salord F, et al. Pulmonary abscess: Aeromonas hydrophila caused by a complication of drowning in fresh water. Ann Med Interne (Paris). 1987;138:666-7.

Impact Factor: What Having One Means to a Scientific Journal

To the editor:

This past month of April—coinciding with the 40th anniversary of its founding—the journal ARCHIVOS DE BRONCONEUMOLOGÍA received its first official impact factor.[1] As we noted in a previous article,[2] the Institute for Scientific Information (ISI), based in the United States of America, began the Science Citation Index in the 1960s (although entries dating from 1945 are included, as Dr Eugene Garfield, the index's creator, informed us in an e-mail response to our article at that time) and the ISI has been publishing the famous "impact factor" since the 1970s. Citations are therefore taken to be important indicators of how often researchers actually use scientific journals. Although the impact factor has drawbacks and limitations and is not a perfect tool for measuring article quality, it must be admitted that it does have the advantage of having been studied for some time and it is an appropriate approach to scientific evaluation. A proper assessment of research is understood to include a combined evaluation of its quality, relevance, and impact. Quality indicates how well the research has been carried out; relevance refers to the potential influence of the research; and impact reflects its repercussions.[2] Garfield himself explains the meaning of impact by pointing out that a citation indicates an article has influenced someone and, therefore, the more often an article is cited, the greater its influence or impact on the scientific community.[3] Several years ago, Seglen,[4] one of the impact factor's biggest critics, enumerated the problems associated with its use. The numerous biases attributed to the impact factor arise from the intrinsic limitations of the SCI itself, an imperfect calculation process, the influence of article length, a short publication lag time, a dynamic research field, and a greater number of self-citations. Particular articles vary greatly in the effect they have on a journal's impact factor. In fact, the most cited 50% of articles receive approximately 90% of the citations; in other words, the top half of articles are cited, on average, 10 times more often than the least cited half (redundancy counts). Additional problems include basing calculation of the impact factor on a short time period and the fact that the social impact of research cannot be computed. In any case, research has shown that journal prestige is important to authors when they decide where to submit their articles[5]; of course, other factors are also involved, including the research field covered by the journal and its relevance to the author's specialty, the speed of the editorial process, the likelihood of the manuscript being accepted, and the cost of publication.[2,4] For these reasons, a number of authors have studied and proposed changes in the way the impact factor is calculated, and some have even suggested eliminating it altogether. Suggested changes include adjusting for the number of self-citations,[2] substituting the impact factor for a "prestige factor," or even replacing it, as Walter et al[6] proposed, with a post-publication peer review process. To date, none of these alternatives has managed to replace the impact factor, even though—in an analysis of the characteristics of scientific articles associated with greater citation—journal impact factor was the variable that determined citation frequency.[2]

In other words, to assess the quality of a journal we can use its various intrinsic features, such as total circulation, number of paid subscribers, international distribution, quality of the editorial committee and peer reviewers, number of manuscripts received and percentage accepted, and inclusion or not in the various international databases. In addition to the impact factor, we can also use the citation half-life, total number of citations, social impact, immediacy index, and number of electronic page views ("hit rates").[5]

Having an impact factor, therefore, reflects how often an article from our journal is cited. Until other tools considered valid for evaluating scientific research are found, the impact factor will continue to be the best we have.

J.I. de Granda-Orive,[a] R. Aleixandre Benavent,[b] and S. Villanueva Serrano[c]

[a]Servicio de Neumología, Hospital General Básico de la Defensa de Valencia, Valencia, Spain.
[b]Instituto de Historia de la Ciencia y Documentación López Piñero (Consejo Superior de Investigaciones Científicas-Universitat de Valencia), Facultad de Medicina, Valencia, Spain.
[c]Servicio de Medicina Intensiva, Hospital General Básico de la Defensa de Valencia, Valencia, Spain.

1. Perpiñá Torderá M, Xaubet Mir A, Casán Clará P, García Río F, Sánchez de León R. Primer factor de impacto de ARCHIVOS DE BRONCONEUMOLOGÍA. Arch Bronconeumol. 2004;40:337.
2. Granda Orive JI. Algunas reflexiones y consideraciones sobre el factor de impacto. Arch Bronconeumol. 2003;39:409-17.
3. Garfield E. Which medical journals have the greatest impact? Ann Intern Med. 1986;105:313-20.
4. Seglen PO. Why the impact factor of journals should not be used for evaluating research. BMJ. 1997;314:497-502.
5. Lundberg G. The "omnipotent" Science Citation Index impact factor. Med J Aust. 2003;178:253-4.
6. Walter G, Bloch S, Hunt G, Fisher K. Counting on citations: a flawed way to measure quality. Med J Aust. 2003;178: 280-1.