Author's response to reviews

Title: How often is a work-up for Legionella pursued in patients with pneumonia? A retrospective study.

Authors:

   Brian Hollenbeck (bhollenbeck@lifespan.org)
   Irene Dupont (idupont@lifespan.org)
   Leonard A Mermel (lmermel@lifespan.org)

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Author's response to reviews:

June 23, 2011

Dear Dr. Renaud,

Thank you for reviewing our manuscript entitled “How often is a work-up for Legionella pursued in patients with pneumonia? A retrospective study.” We appreciate your comments and have made changes as noted below. Please refer to the following responses:

Major comments

Reviewer comment: Actually, there are 2 different and complementary studies reported in the current manuscript, one based on the whole population of patients with community and hospital acquired pneumonia and another one within the subpopulation of patients that were identified with legionella pneumonia. In contrast with the current manuscript structure I suggest to present the whole population of patients with pneumonia first and subsequently the subpopulation of patients with legionella.

Author response: This change was made to the revised manuscript.

Reviewer Comment: Please specify if chart review was performed in a standardized manner and which investigators were in charge of this review. Additionally, indicate which variables were collected and how authors managed the database.

Author response: Chart review was performed in a systematic fashion by BH and this was noted in the revised manuscript. The following data were collected: age, gender, comorbidities, history of alcohol abuse, travel history within two weeks prior to admission, failure of antibiotics prior to hospital admission, presence or absence of pleural effusion at hospital admission, presence or absence of diarrhea, presence or absence of an immunosuppression, liver function test abnormalities, evaluation of CBC and differential, serum sodium level, lactic acid level, ICU admission at any point during hospitalization, death while hospitalized or discharge to hospice care for impending death, method of diagnosis of
Legionella pneumonia, number of specimens collected for each microbiologic diagnostic test, and whether or not bronchoscopy was done.

Reviewer comment: This is a retrospective study, at least with regard to data collected in patient charts, therefore I would suggest to specify the number of missing values for each variable collected and how did the authors deal with missing values in analyses. Author response: This information was added to the Results section of the revised manuscript.

Discussion of the result seems excessively subjective, at least in light of actual study findings. Additionally, in my opinion, the discussion raises some confusion about the actual aim of legionella testing. Indeed, is legionella testing aimed to improve process of care at the patient level or to improve overall epidemiological picture of this specific infection in this endemic region. Authors strongly suggest that legionella testing is underuse; based on their findings, I am not convinced. I could be mistaken but it seems to me that the current study was not designed to answer this question. Current findings did not demonstrate that widespread use of legionella testing would be cost-effective. I think that current study aim was more limited and most of all about the sensitivity of IDSA/ATS criteria for legionella testing. Consistently, authors should alter their manuscript.

Author response: The first aspect of our study provides a measure of how often Legionella testing is pursued in patients with admitted to our hospital with pneumonia. The second part of our study addresses which patients should be tested for Legionella. Currently, the trigger for Legionella testing is set by IDSA/ATS guidelines. As such, we measured the sensitivity of these guidelines as we are unaware of other publications which made this determination. In sum, our manuscript addresses the current testing practices for Legionella and provides information to guide testing practices in the future. The utility of Legionella testing has implications for both individual patients and populations. We have revised the manuscript specifically toning down our recommendations and adding the importance for a cost effectiveness analysis if more widespread testing is done. Also, the final conclusion of the revised manuscript has been changed to reflect the importance of directing therapy for individual patients and for epidemiologic purposes in detecting clusters of cases.

Minor comments:

Reviewer comment: Authors should define “community acquired” or “hospital acquired pneumonia”

Author response: This information is defined in the Results section: “Thirty-three of the 37 cases (89%) met CDC surveillance criteria for community-acquired Legionnaires’ disease; the remaining four cases (11%) met criteria for possible hospital-acquired pneumonia.” Due to the word limit for this section of the journal, we did not add more detail regarding this issue.

Reviewer comment: Please provide some additional description about the medical softwares that were used for identifying patients with legionella and patients with pneumonia. Indeed, this information will help the reader to
understand how patients were actually identified and subsequently included in the current study.

Author response: The software programs used in this study are named in the Methods sections. We did not describe these software programs in depth because of the word limit for this section of the journal and because such information is readily available on the company web sites.

Reviewer comment: Please indicate why incarcerated patients were to be excluded.

Author response: Incarcerated patients were excluded from the study for ease of IRB approval of our study proposal.

Reviewer comment: Please justify why patients that underwent bronchoscopy were of particular interest with regard to legionella pneumonia diagnostic testing.

Author response: Patients who undergo bronchoscopy and for whom the bronchoscopist specifically sends bronchoscopic specimens to the microbiology lab often have a higher acuity of illness. In such patients, Legionella should be in the differential diagnosis for pneumonia. So, we were interested to see how often a specimen was sent for Legionella testing in this specific patient population.

Reviewer comment: The reader would like to know if there is a pneumonia microbiological work-up policy in use in authors' hospital.

Author response: Our hospital does not have a standard, prespecified microbiologic work-up policy for patients with pneumonia.

Reviewer comment: At least, unusual patient characteristics are to be defined.

Author response: This information is included in the Table of the revised manuscript.

Reviewer comment: Description of study population is much too brief; particularly the reader would be interested in getting more details about physical examination and current laboratory and radiographic findings. The authors should provide this information or, alternatively, specify why those patient characteristics were not collected.

Author response: Laboratory and radiographic findings which are considered classic or suspicious for Legionella pneumonia were collected. Physical exam data was not collected because we had no measure to determine interobserver reliability in this retrospective study.

Reviewer comment: I would suggest to provide at least one severity score, either the PSI or the CURB-65.

Author response: Unfortunately, severity scores were not assessed.

Reviewer comment: Maybe, it would be of some interest to compare patients with and without IDSA/ATS criteria for legionella testing. Of course, it seems far from the current study aim, but it would have been mostly valuable to compare IDSA/ATS criteria
characteristics within the whole population of patients with pneumonia. Indeed, the current study design prevents to assess remaining characteristics of this bunch of criteria. Maybe, it would be of some interest to compare patients with and without IDSA/ATS criteria for legionella testing.

Author response: While this information would be interesting, it was outside the scope of our study.

Reviewer comment: In the table, characteristics are not presented straightforwardly. I suggest to gathered comorbid conditions just at the following of demographics, then physical and laboratory findings. Additionally, as stated above, many variables require to be specifically defined. This is the case for “Abnormal liver function test” and “immunocompromised status”.

Author response: Definitions for abnormal LFTs were added to the Table key in the revised manuscript. We have added additional lines to the Table to further delineate the patients who were immunocompromised.

Reviewer Comment: I would suggest to describe antimicrobial treatment and to present overall hospital length of stay as a surrogate of morbidity.

Author response: Unfortunately, this information was not collected.

Reviewer comment: Authors indicate “crude mortality”, but did not specify if the crude mortality referred to in-hospital mortality or short term mortality such as 30-day mortality.

Please specify.

Author response: This information was added to Table footnote in the revised manuscript.

With regard to gender, I suggest to keep “male” or “female” as both are about the same characteristic and are complementary.

Author response: This change was made in the Table of the revised manuscript.

We hope that the changes made are acceptable for publication in BMC Infectious Diseases and we look forward to your decision in this regard.

Sincerely,

Leonard Mermel, DO, ScM, AM (Hon), FSHEA, FIDSA, FACP
Professor of Medicine, Warren Alpert Medical School of Brown University
Medical Director, Dept. of Epidemiology & Infection Control, Rhode Island Hospital