Reviewer's report

Title: Mycoplasma hominis necrotizing pleuropneumonia in an immunocompetent adolescent

Version: 1 Date: 4 January 2010

Reviewer: Thomas Atkinson

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Summary: The authors report a case of bilateral pneumonia with empyema in an adolescent due to Mycoplasma hominis. The infection progressed because of the initial use of ineffective antibiotics in this unusual infection and improvement was temporally associated with the initiation of an appropriate antibiotic.

Overall: This is an impressive infection that appears to be adequately shown to be due to Mycoplasma hominis. The severity and clinical difficulty associated with diagnosis are sufficiently interesting to warrant publication.

Specific critiques:

1. The apparent rarity and severity of this type of invasive infection by a relatively common urogenital organism do bring up the likely presence of a host defense defect. Although the title declares the patient to be immunocompetent, the simple absence of previous significant infections is insufficiently convincing. For example, this could be a presenting infection for AIDS or the result of a primary immunodeficiency, particularly Common Variable Immune Deficiency (CVID), which often presents in adolescence or young adulthood, or a complement deficiency, which may present with intermittent severe infection. The authors should present laboratory data showing:
   a. negative HIV testing
   b. normal serum immunoglobulins
   c. normal CH50, AH50 and mannose binding lectin level

2. The details of the primers and TaqMan probe used for the specific PCR and TaqMan assay used in diagnosis should be available, perhaps as a footnote since there is no Methods section, as well as details of specificity testing for these assays. The reference cited as submitted will be sufficient if it is accepted before this case report is published.

3. The sum of the percentage of neutrophils and bands in the WBC differential as given in the case is over 100%.