To the Editor,

The paper by Wang et al.1 is an interesting study focused on the attempt retrospectively to identify the etiological, clinical, and laboratory characteristics associated with fatal pediatric community-acquired pneumonia (CAP). Twenty-one children (mean age, 31 months; range, from 1 month to 9 years) died due to CAP over an 18-year period in a single Taiwan Center and were compared to 63 age- and year-matched survival controls. Mean results were the high percentage of isolation of Gram-negative bacteria and Mycoplasma pneumoniae in the fatal group and the clinical presentation with sepsis, meningitis, disseminated intravascular coagulopathy, underlying congenital diseases, various types of cytopenia, hyponatremia, and metabolic acidosis.

Despite these intriguing data, I think there are a few methodological points to be clarified for better interpreting the etiological results. First of all, blood culture and sputum sample analysis used by the authors1 for Gram staining generally give little contribution to the final etiological diagnosis, the former being characterized by low sensitivity,2 the latter being difficult to be obtained from a group of patients of whom 12 (57%) children were younger than 2 years of age and not officially contemplated among the microbiological investigations in such a clinical scenario.2 Nasopharyngeal bacterial culture would also not be informative, because the presence of bacteria in the upper respiratory tract is not indicative of CAP.2 Secondly, pneumococcal etiology was not studied either by serological methods on paired sera or by the recently developed and promising real-time polymerase chain reaction, but only by blood cultures and by the pneumococcal antigen detection in urine (and pleural fluid) samples, which has too low a specificity to be clinically useful2 due to the nasopharyngeal carriage of Streptococcus pneumoniae. By contrast, the methods for identifying atypical bacteria (blood and pleural effusion culture and paired serology), despite not considering Chlamydia pneumoniae, Simkania negevensis, and Legionella pneumophila, seem hypertrophic in comparison to the above mentioned methods and in the light of an age group that includes preschool children in whom viral etiology is prevalent. These data, along with the possibility of outbreaks, probably explain the high percentage of detection of M. pneumoniae. Otherwise, the method used for paired serology for M. pneumoniae is not better specified and a detailed description of viral investigations is completely missing. Finally, S. pneumoniae remains the most important bacterial cause of severe and/or complicated pediatric CAP worldwide.3 Moreover, although it has also been shown that viral pathogens (influenza viruses, respiratory syncytial virus, influenza virus A/H1N1) may play a major role in the most severe pediatric CAP cases, the importance of atypical bacteria in such cases has not been yet completely defined.3

In conclusion, the topic of the authors1 is very interesting and important, but more prospective mono- or multicenter studies are needed for further clarification of this matter, in both developing and developed countries. Such studies should be based on a proper sample size of all pediatric age groups and on an extensive microbiological work-up, including both typical/atypical and viral etiologies fully studied by cultural, serological, and molecular methods.

Conflicts of interest

The author declares no conflicts of interest.

References


Massimiliano Don*

Pediatric Care Unit, Sant’Antonio General Hospital, San Daniele del Friuli, Udine, Italy

*Pediatric Care Unit, Sant’Antonio General Hospital, Viale Trento Trieste, 33, 33038 San Daniele del Friuli, Udine, Italy.

E-mail address: max.don@libero.it

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