

Bacterial Pathogens Associated with Community-acquired Pneumonia

We read with much interest the recent article in *Indian Pediatrics* by Das, *et al.* [1], and have the following comments to offer:

1. The authors mention that “in cases of *S. pneumoniae*, *K. pneumoniae* and *S. aureus*, all cases detected by PCR analysis of the respiratory samples were also detected by culture.” Authors have not provided the number or proportion of cases detected by PCR and culture. The bacterial load and antibiotic sensitivity of the culture positive cases would have contributed to the existing knowledge.
2. The use of oropharyngeal aspirate as the sample for isolation of bacterial pathogens associated with community acquired pneumonia (CAP) raises many questions. This is again highlighted by the isolation of organism like *Acinetobacter* and *Citrobacter* species from CAP cases. The value of isolating bacterial organisms that are frequently detected in the upper airways of children (eg, *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Staphylococcus aureus*) are questionable. Nevertheless, had the authors provided the serotypes of the pneumococcal isolates, the presence of serotypes that are rarely found in the upper respiratory tract but are well recognized causes of invasive disease (eg, serotype 1), may have been highly predictive of pneumococcal pneumonia [2].
3. There is no mention whether the children had any pre-existing respiratory morbidity, as chronic respiratory diseases would significantly influence the bacterial flora.
4. The authors did not mention whether the children received antibiotics prior to sampling. Stralin, *et al.* [3] demonstrated that use of antibiotics decreased the yield of culture for *S. pneumoniae* significantly compared to PCR.
5. The conjugate *H. influenzae* vaccine is known to decrease the nasopharyngeal carriage of the organism [4], and many of these children might have received this vaccine as per latest National Immunization Schedule. As all the *H. influenzae* isolates were ‘non type b’, the data on H influenzae immunization status of the children would have been interesting.
6. Nasopharyngeal carriage of *S. pneumoniae* has been

used as a surrogate marker for invasive disease in children with pneumonia [5]. The data on treatment received by the children and their outcome would have enlightened the readers about the clinical usefulness of the isolates in the absence of a positive blood culture.

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Bacterial Pathogens Associated with Community-acquired Pneumonia : Author's Reply

We offer the following comments in response:

1. All the cases of *S. pneumoniae* (n=32), *K. pneumoniae* (n=23) and *S. aureus* (n=15) were detected by both PCR analysis and culture of the respiratory samples. In conventional PCR, bacterial load estimation was not possible. Antibiotic sensitivity testing was not intended in this study.
2. The limitation of oro-pharyngeal swab sampling was already mentioned in the article. Although organisms like *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Staphylococcus aureus* are frequently detected in the upper airways, these organisms were considered as causative agents only when these were isolated in significant count with the absence of growth of other commensal organisms.