

## BRIEF COMMUNICATION

### BLOOD CULTURE: SPECIFICITY IN CHILDHOOD BACTERIAL PNEUMONIA

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Blood culture is commonly used for etiological surveillance, clinical diagnosis, and as a guide for therapeutic approach to childhood bacterial pneumonia. The method has low sensitivity, but it is thought to be specific for the agent that affects the pulmonary parenchyma <sup>1</sup>.

We have previously compared the bacterial findings in blood culture and lung material (obtained by trans-thoracic puncture) of 102 children hospitalized due to acute pneumonia <sup>2</sup>. In three of those cases, *Streptococcus pneumoniae* was isolated in the blood culture while in the pulmonary material of the same children, *Haemophilus influenzae* was identified. From this observation we decided to evaluate the specificity of blood culture as a diagnostic method for bacterial pneumonia, studying cases of pneumococcal pulmonary infection. We retrospectively screened 64 patients with acute pneumococcal pneumonia (age: 1 month - 12 years) that were admitted to the Children's Institute of the Pediatrics Department of the University of São Paulo Medical School in the period spanning from January 1988 to September 1993.

We selected the cases in which the bacterial agent was simultaneously isolated in the blood culture and in

pleuropulmonary aspirated material. 17 cases who displayed this condition were found: concurrent with the presence of bacteria in the blood culture 12 had *Streptococcus pneumoniae* obtained by pulmonary puncture and 5 in the pleural fluid. Isolates were typed by means of the Quellung reactions with group and factor sera provided by the Staten Serum Institut, Copenhagen, Denmark <sup>3</sup>. The *Streptococcus pneumoniae* pairs belonged to the same serotype in 16 cases, but in one case the bacteria obtained from the lung was serotyped as 18A and as 15B on the blood isolate. These results reinforce the value of blood culture as a method utilized for etiologic surveillance in childhood bacterial pneumonia.

However, the case in which different serotyped pneumococci were identified raises a question: was the pulmonary infection caused by two different strains of bacteria as was previously reported with pneumococcal infection <sup>4</sup>, or was the blood strain originated at another point of the respiratory tract? The occurrence of bacteremia in febrile children with acute upper respiratory tract infection, which is well known <sup>5</sup>, might have taken place in this infant's case. Anyhow, we observed another case in which a bacteria present in the lung was different from that identified in the blood culture. This

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finding may have clinical importance in some cases where the bacteria isolated in the blood culture has different antibiotic sensitivity from the one(s) present in the lung.

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