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LETTER TO THE EDITOR

***Streptococcus pneumoniae* serotype 19A bacteremia in a child fully immunized with
10-valent pneumococcal conjugate vaccine**

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Dear Editor,

The effectiveness of the 10-valent pneumococcal conjugate vaccine (PCV10, which contains serotype 19F but not serotype 19A) in providing cross-protection against serotype 19A disease remains debatable.¹⁻³ In 2011, a 18 month old toddler presented to our hospital with fever, cough and shortness of breath for 2 days. Past health was good. She was fully vaccinated with four doses of PCV10 (Synflorix™, GlaxoSmithKline Inc; primary series given at 2, 4 and 6 months of age and booster dose given at age of 12 months). On admission, the rectal temperature was 40.6 °C, and oxygenation saturation was 97%. Physical examination was significant for diffuse chest wheeze and inflamed tympanic membranes bilaterally. Chest radiograph showed some perihilar haziness and no other abnormality was detected. The WBC was $21.1 \times 10^9/L$ (neutrophils 73.8%), hemoglobin was 11.4 g/dL and platelet was $456 \times 10^9/L$.

The child was treated empirically with oral amoxicillin-clavulanate (45 mg/kg/day). Blood culture taken at admission grew *S. pneumoniae* after 27 hours of incubation. Following the positive blood culture, treatment was switched to intravenous ceftriaxone (50 mg/kg/day). Susceptibility testing showed that the isolate was sensitive to all tested antibiotics: penicillin (MIC 0.012 µg/ml), cefotaxime (<0.016 µg/ml), chloramphenicol, cotrimoxazole, erythromycin, clindamycin and levofloxacin. The child became afebrile one day after antibiotic treatment. A total of three days of ceftriaxone and 7 days of oral

amoxicillin-clavulanate were given. The *S. pneumoniae* isolate from the patient was identified as serotype 19A.³ Multilocus sequence typing showed that belonged to ST1201.³

In our locality, invasive disease caused by serotype 19A has been found to increase shortly after the availability of PCV7 and was associated with expansion of the multidrug-resistant ST320 clone.³ Until now, the ST1201-serotype 19A clone has mainly been detected in Europe and none has been found in Asia (MLST database at <http://www.mlst.net>, access on 14 September 2013). In Spain, it is one of the circulating antibiotic-susceptible clone.⁴ Immunological studies have showed that after a booster dose in the second year of life, the proportions of PCV7- and PCV10-immunized children with OPA ≥ 8 against 19A were 30% and 50%, respectively.² In contrast, 98-100% of children immunized with the 13-valent pneumococcal conjugate vaccine had OPA titers ≥ 8 post-booster.⁵ The present report demonstrates bacteremic serotype 19A infection can occur in children fully immunized with PCV10. Clinicians should bear this possibility in mind when managing febrile children suspected to be suffering from bacteremia.

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