

IMPACT OF PNEUMOCOCCAL CONJUGATE VACCINE (PCV 10) ON BACTERIAL MENINGITIS IN NEPALESE CHILDREN

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Introduction

Pneumococcus is one of the most common causes of invasive bacterial disease (IBD), including meningitis, in children. We assessed the impact of PCV10, introduced in Kathmandu October, 2015, on bacterial meningitis in Nepalese children.

Methods

Children admitted with fever (suspected IBD) aged 30 days to 14 years at Patan Hospital were enrolled. CSF specimens were cultured; CSF containing >5 white cells was evaluated for pneumococcus by Binax and PCR. Serotyping for pneumococcus was performed by the Quellung method. Meningitis was defined as having a discharge diagnosis of meningitis, >100 white cells or pathogen detected.

Results

CSF test results were available from 367 children pre-vaccine introduction (2014-2015) and 146 post-vaccine (2018), and 86 (23.4%) and 27 (18.5%), respectively, had defined meningitis. White cells >100 declined from 25/367 (6.8%) pre-vaccine to 5/146 (3.6%) post-vaccine. *S.pneumoniae* was detected in 6/86 (7.0%) meningitis cases pre-vaccine versus 0/27 post-vaccine.

Over the 5 years of surveillance, 4 CSF samples were PCR positive for *S.pneumoniae* (3 pre-vaccine: serotypes 1, 14, and 6B; 1 in 2017: serotype 6A/B) and the remaining 11 cases of pneumococcal meningitis were diagnosed using Binax.

Conclusion

Suspected bacterial meningitis declined 3 years after PCV10 introduction in Nepal. Although pneumococcal meningitis cases were few, these also declined.

