NEED FOR APPRAISAL OF PENICILLIN FOR TREATMENT OF INVASIVE PNEUMOCOCCAL INFECTION AND NEED FOR DEVELOPMENT OF ANTIBIOTICS PROTOCOL IN HOSPITALS IN NEPAL

Dear Editor,

Pneumococcal infection still remains a great challenge as it was a century ago; with mortality from pneumococcal disease > 20%⁵ despite development of armenterium of antimicrobial agents; effective polysaccharide and conjugate pneumococcal vaccine.

This study¹ done in a tertiary hospital in Eastern Nepal has many common findings to share with "IBIS study" done in India in 1999, including the absence of penicillin resistance among invasive isolates. However 4% of total pneumococcal strains showed resistance to penicillin as compared to 1.3% in "IBIS study" group² though there are varying reports from worldwide with resistance of 3% from Botswana to 49% and 67% of penicillin resistance from Spain and South Korea respectively.

Though susceptibility to streptococcus pneumonae to penicillin currently defined by National Committee for Clinical Laboratory Standards as susceptible isolates MIC ? 0.06 ?g/ml and reduced susceptibility MIC 0.1-1 ?g/ml and resistance isolates MIC ? 2 ?g/ml when it comes to clinical setting MIC has entirely different meaning depending on infection being treated. A strain with reduced susceptibility e.g. MIC 1 ?g/ml behaves as a susceptible organism when it causes pneumonia but probably not when it causes meningitis. So considerations are being given to make the definition of susceptibility depending on site infected, the concept supported by Pharmakokinetic considerations and validated by outcome studies.³

Despite treatment has become difficult after emergence of antibiotic resistance to pneumococcus^{2,3,4,5} added onto by the variations from isolates from city to city, within segment of populations, even within institutions from the city, inexpensive penicillin seems to remain highly effective for invasive pneumococcal infection, when tied to appropriate clinical algorithm and judicious use.

To combat the problems of increasing problems of pneumococcal infections the following recommendations will be helpful:

- i. Using antibiotics appropriately only in conditions where treatment is required.
- ii. Effective surveillance for drug resistance in the hospital inside the country so that data can be used for further planning and choosing antibiotics.
- iii. Using pneumococcal vaccine in targeted adult population.
- iv. Making availability of conjugate vaccine affordable to developing countries covering invasive strains locally prevalent.

With pneumococcal drug resistance in rapid flux the clinicians must have access to current locally derived susceptibility data of good quality, which this study¹ has tried to do. Further timely implementations of the recommendations would curtail the burden of pneumococcal disease in Nepal at a time when penicillin resistance is low, which requires commitment from health policy makers and every individual involved in the upliftment of health status of the country.

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2ND CONFERENCE OF PAEDIATRIC ASSOCIATIONS OF SAARC COUNTRIES AND 7TH ANNUAL SCIENTIFIC SESSIONS OF THE SRI LANKA COLLEGE PAEDIATRICIANS IN COLOMBO, SRI LANKA SEPTEMBER 3-6, 2003

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