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Pneumonia in severely malnourished children: Etiology, diagnosis, management and future direction

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Statement of the Problem: Management of pneumonia in severely malnourished children is critically important in reducing deaths in such children. Understand the etiology of pneumonia in severely malnourished children is one of the essential components of appropriate management. Diagnosis of pneumonia in children with severe malnutrition is also intriguing. Etiology and diagnosis of pneumonia in SAM is not well described in medical literature. Data on management of pneumonia in such children are also lack.

Methodology & Theoretical Orientation: We have done a systematic review using specific search criteria in PUBMED to evaluate the overall role of severe malnutrition in children with pneumonia in SAM children.

Result: Among a total of 215 isolates, 26% were *Klebsiella* and 25% *Staphylococcus aureus* species; 18% *Pneumococcus*; 8% each *Escherichia coli* and *Salmonella* species. A recent study conducted in Bangladesh found 87/385 (23%) MTB as the bacterial etiology of pneumonia in SAM children. In SAM children, the sensitivity of fast breathing as a predictor of radio graphically proven pneumonia ranged from 14% to 76% and specificity from 66% to 100%. Surprisingly, metabolic acidosis found to have no impact on the diagnostic clinical features of pneumonia in SAM children having diarrhea. Studies revealed that as a first line therapy ampicillin and gentamicin are more effective against enteric Gram-negative bacilli than chloramphenicol in SAM children with pneumonia. Both the groups received in addition to diet, micronutrients, vitamins and minerals.

Conclusions & Significance: Currently, available data suggests that the spectrum and frequency of causative agents of pneumonia in severely malnourished children differ from that observed in well-nourished children. Clinical signs are relatively poor predictors of pneumonia in severely malnourished children. However, injectable antibiotics in addition to diet, micronutrients, vitamins and minerals are the *sine qua non*. High prevalence of pulmonary tuberculosis in severely malnourished children having acute pneumonia underscores the importance of further research that may help to evaluate determinates of TB in such children.

Biography

Mohammad Jobayer Chisti has been working in International Centre for Diarrhoeal Disease Research, Bangladesh since 1998 as a Clinician as well as Researcher.

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