Co-relation of Vitamin D Deficiency with Severity of Pneumonia in Children Aged 2 Months to 5 Years Admitted in a Tertiary Care Hospital

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Aim: To study the association between vitamin D levels and severity of pneumonia in children.

Methods: It was a prospective and observational study where patients with pneumonia meeting the eligibility criteria during the study period were enrolled.

Results: Out of 101 children in our study 62.3 % were male and 37.6 % were female. The prevalence of vitamin D deficiency was 69.3%. Mean serum 25(OH) was 34.45 ± 28.57ng/ml. 21 (20.8%) children had level >20 ng/ml, a level considered to denote vitamin D sufficiency in children. Out of 101 children, 71(70.2%) patients had severe pneumonia. Child with severe pneumonia had significantly lower vitamin D levels compared to non-severe pneumonia. Vitamin D deficient patients needed significantly longer duration of hospitalization (8.77 ± 3.95 days) as compare to vitamin D sufficient groups (5.76 ± 5.67 days), p<0.001. 28(27.7%) patients needed admission to PICU, 100(99%) needed oxygen supplementation, 100(99%) needed antibiotics, 69 (68.3%) needed upgradation of antibiotics, 95 (94%) needed initial fluid resuscitation at admission, 21 (20.7%) needed blood transfusion. Vitamin D deficient patients needed significantly longer duration of PICU stay, longer duration of oxygen therapy and longer duration of CPAP as compare to vitamin D sufficient groups.

Conclusion: Vitamin D deficiency was found to be significantly associated with severity of pneumonia and patients with severe pneumonia were found to have significantly lower vitamin D levels as compared to cases with non-severe pneumonia.