

Gastroesophageal Reflux In Mechanically Ventilated Children: Not A Risk Factor For Ventilator Associated Pneumonia (VAP)?

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Background : Gastroesophageal reflux (GER) is fairly common in children and mechanically ventilated children are at increased risk for the development of GER. Information on GER and development of ventilator associated pneumonia (VAP) is limited.

Methods : A prospective observational cohort study was performed in mechanically ventilated children aged 1 year to 15 years within first 24 hrs of (initiation of mechanical ventilation) in Pediatric Intensive Care Unit (PICU), AIIMS using 24 hr esophageal pH metry and were followed up for 7 days for development of VAP using CDC criteria. Presence of GER was defined as fall in esophageal pH < 4 for more than 4% of total time .

Results : A total of 61 patients (mean age (median): 73 (30-132), boys: 44 (72.1%), girls: 17 (27.9%)) were enrolled in the study.

Total number of reflux episodes were 1855 and at least 1 episode of reflux was seen in 32 (52.46%) patients. As per definition of GER, 12 (19.7%) children had GER. Of the enrolled children, 17 (27.87%) patients developed VAP; 7 patients had VAP and at least 1 episode of acidic reflux however, no patient had both GER (as per definition) and VAP. Of 44 patients who did not develop VAP, at least 1 episode of reflux was seen in 25 patients while 12 patients (27.27%) had GER positive and 32 patients (72.72%) did not have GER. There was no correlation of age, sex, weight, mode of ventilation and PRISM score with GER.

Conclusion : Acid reflux was common in ventilated patients but GER was less common and presence of acid reflux or GER did not increase the risk of development of ventilator associated pneumonia.