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| **Young children with cystic fibrosis and tracheobronchomalacia have longer and more frequent hospital admissions** |
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| **Introduction/Aim:** Tracheobronchomalacia (TBM) is frequently seen in young children with cystic fibrosis (CF). This study aimed to determine whether diagnosis of TBM with CF influenced hospital admission frequency, and length of stay (LOS).**Methods:** A retrospective audit of medical records was undertaken for all children with CF born between January 2009 and June 2019 receiving care in Western Australia (WA). Number, length, and reason for hospital presentations >24hours were collected between the ages of 0-4. Results were analysed for ages 0-2 and 0-4 and diagnosis of TBM by bronchoscopy. A Mann-Whitney U test was run to determine differences between children with and without TBM. Significance was set as p<0.05.**Results:** 101 of 117 patients had complete data between the ages 0-4. Fifty-nine children (58%) had TBM. Between 0-2 years, 72 (71%) children had at least one admission in WA. Children with TBM had significantly higher total admission days [median(IQR) =17(36) vs 4(15), p=0.009], number of admissions [median(IQR)=2(2) vs 1(2), p=0.005; OR 1.79], number of respiratory admissions [median(IQR)= 1(2) vs 0(1), p<0.001; OR 3.91] and respiratory LOS [median(IQR)=5(22) vs 0(1), p<0.001].By age four, children with TBM continued to have significantly higher total admission days [median(IQR)= 25(55) vs 4(15), p<0.001], number of admissions [median(IQR)= 3(4) vs 1(2), p<0.001; OR 2.72] and number of respiratory admissions [median(IQR)= 1(3) vs 0(1), p<0.001; OR 6.18]. Additionally, children with TBM had significantly more gastroenterology admissions [median(IQR)=0(1) vs 0(0), p=0.037] and LOS [median(IQR)= 14(14) vs 0(0), p=0.046]. **Conclusion:** Diagnosis of TBM in children with CF is associated with a higher number of hospital admissions and length of stay in children under four years of age. This information can be used in education for families of children with CF regarding the clinical implication of a TBM diagnosis. |

Key Words (six): Cystic Fibrosis, Tracheobronchomalacia, Hospital admissions