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Title: Long term effect of palivizumab immunization on children born <29w gestation

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Body: Background: Palivizumab reduces severity of RSV infection in premature infants and may decrease risk for long term respiratory disease. Aims: To assess the effect of palivizumab on respiratory morbidity at school-age in extreme preemies. Methods: Infants born <29w gestation were assessed at school age by questionnaire, spirometry, plethysmography, methacholine, bronchodilator response and exhaled nitric oxide. Children born prior to routine palivizumab administration ("controls") were age matched and compared to those who had received palivizumab during the 1st RSV season ("palivizumab") Results: 63 subjects aged 8.9±0.7y were included: 30 “palivizumab” and 33 “controls”. Perinatal data (gestational age, birth weight, mechanical ventilation, O_{-2} support and % BPD) were similar in both groups. During 1st 2y, recurrent wheezing was reported in 86% for “palivizumab” children vs. 73% “controls” (p=0.2, NS). However, a major difference was found in hospital admissions with respiratory diagnoses: 10 vs. 32 respectively (p=0.001); 33% vs. 70% were hospitalized at least once (p=0.005). Pulmonary function (% predicted) (mean±SD) was good in both groups: FVC 89±11 vs 89±12, FEV_1 84±11 vs 84±13, FEF_{25-75} 76±29 vs 78±28; TLC 105±13 vs 101±14; FeNO 13.5±14.8 vs 10.7±6.7 ppb (p=NS for all parameters). There was no difference in bronchial hyperreactivity at school age. Subgroups of patients born <26w gestation or those with BPD were no different, when comparing “palivizumab” and “control” groups Conclusions: in our cohort, palivizumab dramatically reduced the number of hospitalizations during the first 2y of life, but no significant effect was observed on lung function at school age which was good for both cohorts.