20º CONGRESSO BRASILEIRO DE Infectologia Pediátrica

DE 14 A 17 DE NOVEMBRO • SALVADOR/BA

Trabalhos Científicos

Título: Asthma Exacerbations In A Subtropical Area And The Role Of Respiratory Viruses: A Cross-Sectional Study

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Resumo: BACKGROUND Multiple factors are involved in asthma exacerbations, including environmental exposure and viral infections. We aimed to assess the association between severe asthmaexacerbations, acute respiratory viral infections and other potential risk factors. METHODS Asthmatic children aged 4-14 years were enrolled for a period of 12 months and divided into two groups: those with exacerbated asthma (group 1) and non-exacerbated asthma (group 2). Clinical data were obtained and nasopharyngeal samples were collected through nasopharyngeal aspirate or swab and analysed via indirect fluorescent immunoassays to detect influenza A and B viruses, parainfluenza 1-3, adenovirus and respiratory syncytial virus. Rhinovirus was detected via molecular assays. Potential risk factors for asthma exacerbation were identified in univariate and multivariate analyses. RESULTS In 153 children (group 1: 92; group 2: 61), median age 7 and 8 years, respectively, the rate of virus detection was 87.7%. There was no difference between groups regarding the frequency of virus detection (p?=?0.68); however, group 1 showed a lower frequency (19.2%) of inhaled corticosteroid use (91.4%, p?<?0.01) and evidence of inadequate disease control. In the multivariate analysis, the occurrence of three or more visits to the emergency room in the past 12 months (IRR?=?1.40; p?=?0.04) and nonadherence to inhaled corticosteroid (IRR?=?4.87; p?<?0.01) were the only factors associated with exacerbation. CONCLUSION Our results suggest an association between asthma exacerbations, poor disease control and nonadherence to asthma medication, suggesting that viruses may not be the only culprits for asthma exacerbations in this population.