EFFICACY OF MONTELUKAST ON TREATMENT OF WHEEZING LOWER RESPIRATORY TRACT INFECTION (LRI) IN YOUNG CHILDREN WITH RISK OF ASTHMA

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Background and aims: Leukotrienes are major inflammatory mediators in wheezing-LRI and leukotriene antagonist has been reported to be effective in asthmatic children. This randomized double-blind, placebo-controlled trial study was performed to evaluate the efficacy of montelukast in the treatment of wheezing-LRI and in prevention of recurrent wheezing among previously healthy children under 5 years of age with risk of asthma.

Methods: The enrolled patients were randomly allocated into the studied group (receiving 4-mg montelukast once daily while being hospitalized) and the control group (receiving placebo). The 2 groups were compared in terms of clinical severity scores, duration of oxygen use, length of hospital stay, chest X-ray, viral study and urine leukotriene E₄ levels. All patients were followed up for 6 months to evaluate their recurrent wheezing episodes and pulmonary function tests.

Results: 21 patients (mean age 23 months) were recruited. 11 patients received montelukast, 10 patients received placebo. There were no differences in clinical severity scores, duration of O₂ therapy, length of hospital stay and urine leukotriene E₄ levels between the two groups. During the 6-month-follow up period, the montelukast group had lower recurrent wheezing episodes and inhaled corticosteroid use but not statistically significant. The airway resistance was significantly decreased after 6 months in the montelukast group (mean of difference = -0.14, $p = 0.004$).

Conclusion: In wheezing-LRI children with risk of asthma, montelukast was ineffective in improving acute outcomes and prevention of recurrent wheezing. However; montelukast might be beneficial in decreasing airway resistance.