



# TREATMENT WITH MONTELUKAST SODIUM ON REDUCING THE MIDDLE EAR EFFUSION OF CHILDREN AGES 2-12 YEARS OLD DIAGNOSED WITH ACUTE OTITIS MEDIA: A SYSTEMATIC REVIEW AND META-ANALYSIS

**Erika Andrea L Resurreccion, MD**  
Primary Investigator

**Marjorie Grace M. Apigo, MD**  
Supervising Investigator

## BACKGROUND

Acute Otitis Media (AOM) is one of the leading causes of acute care visits in the pediatric population and is identified before reaching school age. Effusion in the middle ear may be associated with ear discomfort, hearing loss, balance problems, poor school performance, recurrent AOM, behavioral problems and even reduced quality of life. Montelukast sodium is a selective and orally active leukotriene receptor antagonist. It has been suggested that this drug has potential benefit in the treatment of effusion.

## OBJECTIVES

This study aims to determine if treatment with Montelukast Sodium is effective in reducing the middle ear effusion among patients ages 2-12 years old with Acute Otitis Media.

## METHODS

A meta-analysis of three randomized trials was conducted. Electronic literature search and systematic review of relevant studies was conducted on all English articles from the following databases: PubMed, MEDLINE, EMBASE, CINAHL, HERDIN, Google Scholar, and the Cochrane Database of Systematic Reviews to look for relevant studies included in the study. Quality of studies was assessed using the Cochrane risk of bias tool. Random effects model was used to compute for the pooled odds ratio.

## RESULTS

Overall resolution rate in the three studies was 75.5% (102/135) in the montelukast group and 56.8% (71/128) in the control group. The pooled estimate showed that treatment with montelukast was significantly associated with resolution of middle ear effusion (OR=2.87, 95%CI=1.13 to 7.28, p-value=0.03). The studies have low risk of bias.

## CONCLUSION

Montelukast was seen to be significantly associated with complete resolution of middle ear effusion.