Prevalence of Aspirin-Exacerbated Respiratory Disease: Meta-Analysis of Blinded Controlled Clinical Trials.

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INTRODUCTION: Aspirin triggers exacerbations in susceptible patients with asthma, often termed aspirin-exacerbated respiratory disease (AERD). The prevalence of AERD is inconsistently reported in the literature, mainly as a result of heterogeneity in study design, AERD definition, patient selection and dose of administration. The aim was to systematically estimate the prevalence of AERD using only blinded placebo-controlled clinical trials in order to establish an unbiased estimate of prevalence and to determine the mean provocative dose of aspirin triggering such reactions.

METHODS: A systematic review of databases was performed to identify all blinded, placebo-controlled clinical trials evaluating aspirin exposure in patients with asthma. Effect estimates for changes in respiratory function and symptoms were pooled using fixed effects meta-analysis and a weighted average calculated using the mean provocative dose for each study.

RESULTS: Of 1608 studies screened, 6 provided data on lung function and 17 on mean provocative dose. The overall prevalence of AERD was 10% (RD 0.10, 95% CI 0.07–0.14, \( P < 0.001 \)), similar between adults and children. The overall mean provocative dose of aspirin was 61.6 mg (95% CI 58.5–64.9).

CONCLUSIONS: Previous systematic reports may have overestimated the prevalence of AERD as defined by oral provocation challenge testing. Our value for the prevalence of AERD is more in keeping with previous population studies reporting a prevalence of around 10%. On average reactions appear triggered by low dose aspirin.