Adverse pulmonary responses to aspirin and acetaminophen in chronic childhood asthma.

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Abstract
Because aspirin (ASA) is often reported to have an adverse effect on pulmonary function in children with chronic asthma, acetaminophen is commonly used as an ASA substitute in these children. To study acetaminophen effects on pulmonary functions, double-blind, oral challenges of ASA (600 mg), acetaminophen (600 mg), or lactose were administered on separate days to 25 chronic asthmatics, ten boys and 15 girls, ranging in age from 8 to 18 years (mean age +/- 1 SD: 12.5 +/- 2.8 years). No patient had a past history of adverse reactions to either drug. Forced expiratory volume in 1 second (FEV1), peak expiratory flow rate (PEFR), maximal mid-expiratory flow rate (FEF25-75), forced vital capacity (FVC), maximal voluntary ventilation (MVV), and flow volume curves were measured at base line and 1/2, 1, 2, 3, and 4 hours after ingestion of drug or placebo. Persistent decreases from base line FEV1 (greater than 20%) or FEF25-75 (greater than 30%) occurred in four ASA- and two acetaminophen-challenged patients. One ASA-sensitive patient was placebo intolerant; another reacted to acetaminophen. The acetaminophen responses were of less intensity than the ASA responses. Analysis of group mean pulmonary function responses to ASA, acetaminophen, and lactose showed no significant difference among the three agents at any time. Aspirin should be used cautiously in asthmatic children. Acetaminophen appears to be an adequate, although not completely, innocuous ASA substitute.

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