Aditivo alimentares. Metabisulfito: asma e urticária

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Metabisulfite sensitivity: case report and literature review

Jamieon DM, Guill MF, Wray BB, May JR.
Ann Allergy. 1985 Feb;54(2):115-21

Sulfiting agents have recently been identified as food and drug additives responsible for adverse reactions. These reactions are not rare and may result in life-threatening asthma and anaphylaxis. We report a 34-year-old female with intractable asthma and urticaria. Sensitivity to sulfites was suspected based on exacerbation after hospital meals and metaproterenol 5% inhalant solution. Bronchial provocation challenge resulted in a 28% decrease in FEV1 and a 34% decrease in FEF25-75 at the 0.01 mg/ml dose. Thirty-two cases of sulfite sensitivity reported in the literature are reviewed. Foods and drugs containing sulfites are listed. The pathogenic mechanism is unknown. The FDA allows the addition of sulfites to foods and drugs without disclosure. Only recently has this potential hazard been recognized. The FDA is considering a labeling requirement on drugs that do contain sulfites.

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Pickled onion-induced asthma: a model of sulfite-sensitive asthma

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BACKGROUND: Asthma elicited by sulfate ingestion has been mainly described in steroid-dependent and in non-atopic asthmatics. We have studied a group of 18 young extrinsic asthmatics who presented with asthma attacks immediately after eating pickled onions.

OBJECTIVE: The aim of this study is to ascertain if these asthma attacks are elicited by sulfites contained in pickled onions and the influence of the dose and pH of onions. METHODS: The bronchial hyperreactivity of the patients was assessed by a methacholine challenge test. Oral challenge tests were performed with sodium metabisulfite (MSB) diluted in lemon juice at pH 4.2 and at pH 3.3 (only in patients who did not react with pH 4.2). Two types of pickled onions, Spanish and Dutch pickled onions, were used for oral challenge in seven of the patients. The Monier-Williams method was used to measure the SO2 concentration in pickled onions.

RESULTS: The oral provocation test with MBS, pH 4.2, elicited a positive response in six patients (33.3%) and the test at pH 3.3 was positive in three out of 12. No significant difference in PD20 values was found between these groups. Three of the seven patients challenged with Spanish pickled onions had a positive reaction but had no reaction with Dutch pickled onions. The SO2 concentration in Spanish pickled onions varied between 765 and 1182 ppm while in Dutch pickled onions were 200 ppm; this exceeded the permitted level (100 ppm). SO2 release in Spanish pickled onion samples was nearly 2.5 times higher when the pH of the sample decreased from 4.2 to 3.3.

CONCLUSION: High levels of SO2 in Spanish pickled onions, and their low pH (3.3) would be the responsible factors of the asthmatic outbreaks after ingestion of Spanish pickled onions by these patients.

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Oral challenge test with sodium metabisulfite in steroid-dependent asthmatic patients

Prieto L, Juyol M, Paricio A, Martínez MA, Palop J, Castro J.
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Oral challenge tests were carried out with sodium metabisulfite solution doses of 0.5, 1, 10, 25, 50 mg and encapsulated doses of 100 and 200 mg, as well as with lactose-placebo, on 44 non-atopic patients with steroid-dependent bronchial asthma, without clinical evidence of intolerance to these agents. Only those patients with an acceptable and not very labile pulmonary function were tested. A single-blind challenge protocol was performed in 22 patients (sodium metabisulfite solutions at pH 2.2 to 2.6) and the positive responses were confirmed by double-blind challenge. The other 22 were tested directly in a double-blind manner (pH4). Initially, 6/44 presented a positive reaction. However, a careful analysis and the confirmation by double-blind challenge of the positive responses obtained with the single-blind test, allowed us to identify 4 false positive responses. Thus, the true prevalence of sulfate sensitivity in our population is 4.5%. A patient with intolerance to sulfate agents also suffered aspirin-induced asthma. The labile tendency of the pulmonary function of the asthmatic patients may have contributed to some false positive reactions and probably explain the very high prevalence found in some studies. It does not appear that the variations of pH decisively influence the result of the challenge test.

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Metabisulfite sensitivity and local dental anesthesia

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A case of sulfite sensitivity first manifesting as urticaria and acute airway obstruction following local anesthesia is described. A positive parenteral provocation test to metabisulfite was observed weeks after recovery of the patient from the clinical event.

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