Two major phenotypes of sulfite hypersensitivity: asthma and urticaria

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Background: The sulfites are used widely in the food, cosmetics and medicines. Although sulfite use and doses have been regulated by FDA and KFDA, sulfite hypersensitivity reactions have been reported. We investigated the clinical features of two major phenotypes of sulfite hypersensitivity, sulfite sensitive asthma and sulfite sensitive urticaria. Moreover, we dissected the clinical features of sulfite sensitive asthma compared with those with sulfite tolerant asthma. Method: We retrospectively analyzed the medical records of 26 subjects diagnosed as having sulfite hypersensitivity which were confirmed by sulfite oral provocation test (OPT). As a control group, 61 asthmatic patients who showed negative results to sulfite OPT were enrolled from Ajou University Hospital, Suwon, Korea (group I: sulfite sensitive asthma, group II: sulfite sensitive urticaria, group III: sulfite tolerant asthma). Results: Sulfite sensitive asthma was a more common phenotype of sulfite hypersensitivity than sulfite sensitive urticaria (69.2% vs. 30.8%). There were no differences in basic clinical parameters. The prevalence of chronic asthma was significantly higher in group I (100% vs. 62.5%, p = 0.022), while that of chronic urticaria was significantly higher in group II (5.6% vs. 50%, p = 0.020). The history of symptom provocation with exposure to sulfite was found in 44% of group I and 63% of group II. When clinical characteristics were compared between sulfite sensitive asthma and sulfite tolerant asthma, the prevalence of severe asthma was significantly higher in group II than in group III (44% vs. 16%, p = 0.023). Moreover, the frequency of hospitalization, ER visit and oral steroid burst were significantly higher in group II than in group III (66.7% vs. 24.6%, p = 0.001; 66.7% vs. 24.6%, p = 0.001; 55.6% vs. 17.3%, p = 0.003). Conclusion: We report two major phenotypes of sulfite hypersensitivity, asthma and urticaria in Korea. Considering high prevalence of severe asthma and frequent health care utilization rate in patients with sulfite sensitive asthma, sulfite OPT can be considered as a screening test to identify exacerbating factors for severe asthma patients regardless of history of hypersensitivity reactions.

Characteristics of drug reaction with eosinophilia and systemic symptoms syndrome

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Background: Drug reaction with eosinophilia and systemic symptoms (DRESS) syndrome is characterized by fever, rash, blood eosinophilia and multiple organ involvements. Lower incidence, late onset and variable clinical courses may prevent early diagnosis and management. However, few domestic studies on clinical features of DRESS syndrome have been reported. Objective: To investigate clinical characteristics of Korean patients with DRESS syndrome. Method: Among patients with drug eruption who were admitted from January 2005 to July 2012, those with DRESS syndrome were selected and reviewed. Culprit drugs were assessed using Naranjo algorithm and WHO-UMC causality categories. In some cases, patch tests and skin biopsies were performed. Results: Forty-eight patients were diagnosed with DRESS syndrome. Initiating symptoms were cutaneous eruption (70.9%), fever (43.8%) and/or jaundice (2.1%). Skin eruption was mostly presented as maculopapules (89.6%). Hepatic (83.3%), renal (66.7%), and pulmonary (41.7%) involvements were common. Blood tests showed eosinophilia (81.3%), anemia (60.4%), the presence of atypical lymphocytes (54.2%), leukocytosis (47.9%) and thrombocytopenia (18.8%). Clinical manifestations developed 23.5 ± 17.2 days after starting medications and lasted for 38.3 ± 24.9 days. Direct Coombs tests were positive in 5 (62.5%) of 8 patients. Offending drugs were cephalosporins (27.1%), allopurinol (16.7%), NSAIDs (10.4%), valproic acid (6.3%), vancomycin (6.3%), carbamazepine (6.3%) and lamotrigine (6.3%). Patch tests were positive in 6 (37.5%) of 16 patients. Skin biopsies revealed vasculitis in 3 (12.5%) of 24 patients. Patients were managed with drug avoidance (100%) and administrations of antihistamines (91.7%), systemic steroids (58.3%) and/or IV immunoglobulin (10.4%). Four patients (8.3%) died. Conclusion: DRESS syndrome may initiate with maculopapular skin rash after regular longtime medications, involve serious damages to multiple organs, which may result in fatal outcomes, and be accompanied by hematologic abnormalities, positive direct coombs test and/or vasculitis, and continue for a long period of time.