

Immediate-hypersensitivity reaction to glucosamine sulfate

V. Matheu*, M. T. Gracia Bara, R. Pelta, E. Vivas, M. Rubio

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• OSTEOARTHRITIS (OA) is the most common of the rheumatic diseases. About 10% of the population over the age of 60 suffer from symptoms of OA, and its incidence is increasing (1). Several agents are used in the disease-modifying therapy of OA, among them, the so-called "chondroprotective" agents. Some of them inhibit cyclooxy-

genase and prostaglandin biosynthesis, in which case they should be more properly classified

as mild NSAIDs (2). Only two of them, namely, diacerein and D-glucosamine sulfate, have true chondroprotective effects with anti-inflammatory and antireactive properties which are not based on inhibition of cyclooxygenase. Drug eruption or immediate-hypersensitivity reactions to these drugs have not been described. We report a patient with angioedema induced by glucosamine sulfate (GS).

A 76-year-old woman with arterial hypertension and OA was referred for evaluation of a recent episode of urticaria after drug intake. She was prescribed GS one dose per day for osteoarthritis. She suffered erythematous lesions and facial swelling within several hours after oral GS. The next day, 5 min after a new dose, she developed tongue, facial,

and throat swelling with facial erythema. She was treated in the emergency department with antihistamines and corticosteroids, and her symptoms resolved in 4 h.

After a washout period, the skin prick test and the intradermal test with GS prepared in our laboratory were performed. The skin prick test was negative. The intradermal test with a concentration of 1.5 mg/ml was positive with a papule of 36 mm². Positive control with histamine chloride (168 mm²) and negative control with saline serum (no papule) were also performed. The intradermal test in 10 healthy volunteers was negative. The ELISA, designed and performed for specific IgE against GS, was negative.

GS is the salt of D-glucosamine with sulfuric acid. The molecular mass of GS is 456.42 Da. In solution and in the human body, GS dissociates into the D-glucosamine ion (D-G), the active principle, and the sulfate ion. D-G is a chondroprotective agent with chondrometabolic, antireactive, and antiarthritic effects (2). D-G administered as sulfate (GS) has been proven to be effective in OA in double-blind, controlled clinical studies, improving mobility and relieving pain (3-5). The relief of pain under GS appears after 2-3 weeks of treatment, while under ibuprofen the pain is relieved already in week 1 of treatment (6).

Since its therapeutic effect is not due to inhibition of prostaglandin synthesis, treatment is not accompanied by the usual unwanted side-effects. Gastrointestinal discomfort and nausea have been reported, but the incidence was no higher than with placebo (7). This is the first case described of a patient with symptoms of immediate hypersensitivity induced by ingestion of GS. In view of the patient's history and the intradermal test, an IgE-mediated mechanism is possible. Failure to demonstrate IgE antibodies against GS is not surprising, given the small size of this molecule

and the problems arising with regard to linkage. In conclusion, GS appears to be a safe drug.

*Sección de Alergia
Hospital General Universitario Gregorio
Marañón
C/Dr. Esquerdo, 46
28007 Madrid
Spain
Tel. 34-91-5868268
Fax: 34-91-5868018

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Sensitization to pistachio is common in *Parietaria* allergy

G. Liccardi*, M. Russo, G. Mistrello, P. Falagiani, M. D'Amato, G. D'Amato

Key words: food allergy; *Parietaria*; pistachio nut; respiratory allergy.