

Images in Clinical Rheumatology

Fever and Exanthema in a Young Patient: Drug Reaction With Eosinophilia and Systemic Symptoms due to Allopurinol[☆]

Fiebre y exantema en un paciente joven: reacción a medicamentos con eosinofilia y síntomas sistémicos al alopurinol

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Clinical Presentation

The patient is a 25-year-old male with Down's syndrome who was hospitalized for 10 days due to a macular popular rash on the thorax, abdomen and extremities, with fever, abdominal pain and nausea. The patient had a history of celiac disease and hypothyroidism that were under control and had used allopurinol 20 days earlier. Upon examination the patient had a macular and popular rash on the neck, thorax, abdomen and extremities, as well as hand and feet edema (Figs. 1 and 2). The patient had no synovitis or other findings.

Diagnosis and Progression

Laboratory: leukocytosis 15 800 (990 eosinophils), aspartate-transaminase 138, alanine-aminotransferase 300. Renal function, immunology tests and serology for exanthematic diseases were normal. An abdominal ultrasound showed mild liver and spleen enlargement. Chest and abdomen x rays were normal. A punch biopsy of the skin lesion showed evidence of a spongiotic reaction to drugs. The patient had used allopurinol 20 days earlier, complying with two major criteria (skin rash and liver affection) and 3 minor criteria (leukocytosis, fever, eosinophilia) of those proposed by Zinger and Wallace for allopurinol hypersensitivity. Treatment with IV liquids, steroids and antihistamines was started (allopurinol had been suspended a week prior), with excellent clinical progression, remission of fever and the rash and a normalization of liver enzymes.



Fig. 1. Rash and edema on the extremities.

Discussion

Drug related eosinophilia and systemic symptoms (DRESS), in this case allopurinol, is a type IV late hypersensitivity reaction that presents in approximately 2% of patients after 2–4 weeks of treatment.

This is the favored term to refer to currently describe a drug reaction. Although most generally have a favorable outcome, mortality may reach 25%, fundamentally due to liver or renal damage or severe sepsis.

Older patients, with renal failure, using thiazides and Asians seem to have a greater predisposition to developing DRESS.

Our case was a young male patient with Down's syndrome with a diffuse rash and fever, initially leading us to the diagnosis of measles. The fact that he had received treatment with allopurinol due to a prior asymptomatic hyperuricemia made it possible to suspect the drug related origin of his disease.

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Fig. 2. Diffuse rash of the thorax and neck.

Ethical Responsibilities

Protection of persons and animals. The authors declare that no experiments on humans or animals were performed for this study.

Data confidentiality. The authors state that they have followed their work center protocols regarding the publication of patient data and that all included patients in the study were sufficiently informed and gave their informed consent in writing in order to participate in the study.

Right to privacy and informed consent. The authors state that informed consent was obtained from patients and/or subjects

referred to in the article. The corresponding author is in possession of this document.

Conflict of Interest

The authors declare no conflict of interest.

Further reading

- Ghislain PD, Roujeau JC. Treatment of severe drug reactions: Stevens Johnson syndrome, toxic epidermal necrolysis and hypersensitivity syndrome. *Dermatol Online J.* 2002;8:5.
- Pérez Pimiento AJ, Calvo Manuel E, Lozano Tonkín C, Espinós Pérez D. Síndrome de hipersensibilidad retardada a fármacos. *Rev Clin Esp.* 2002;202:339–46.
- Tas S, Simonar T. Management of drug rash with eosinophilia and systemic symptoms (DRESS syndrome): an update. *Dermatology.* 2003;206:353–6.
- Markel A. Allopurinol induced DRESS syndrome. *IMAJ.* 2005;7:656–60.
- Thirumoorthy T, Lee Y, Ariyasinghe JTN. Allopurinol hypersensitivity syndrome: a preventable severe cutaneous adverse. *Singapore Med J.* 2008;49:384.
- Lobo I, Ferreira M, Velho G, Sanches M, Selores M. Drug rash with eosinophilia and systemic symptoms (DRESS syndrome). *Acta Med Port.* 2008;21:367–72.
- Shalom R, Rimbroth S, Rozenman D, Markel A. Allopurinol-induced recurrent DRESS syndrome: pathophysiology and treatment. *Ren Fail.* 2008;30:327–9.
- Um SJ, Lee SK, Kim YH, Kim KH, Son CH, Roh MS, et al. Clinical features of drug-induced hypersensitivity syndrome in 38 patients. *J Investig Allergol Clin Immunol.* 2010;20:556–62.
- Ding WY, Lee CK, Choon SE. Cutaneous adverse drug reactions seen in a tertiary hospital in Johor, Malaysia. *Int J Dermatol.* 2010;49:834–41.
- Chen YC, Chiu HC, Chu CY. Drug reaction with eosinophilia and systemic symptoms: a retrospective study of 60 cases. *Arch Dermatol.* 2010;146:1373–9.
- Dewan AK, Quinonez RA. Allopurinol-induced DRESS syndrome in an adolescent patient. *Pediatr Dermatol.* 2010;27:270–3.
- Cacoub P, Musette P, Descamps V, Meyer O, Speirs C, Finzi L, et al. The DRESS syndrome: a literature review. *Am J Med.* 2011;124:588–97.
- Aihara M. Pharmacogenetics of cutaneous adverse drug reactions. *J Dermatol.* 2011;38:246–54.
- Pirmohamed M. Genetics and the potential for predictive tests in adverse drug reactions. *Chem Immunol Allergy.* 2012;97:18–31.
- Bollaert M, Jeulin H, Waton J, Gastin I, Tréchet P, Rabaud C, et al. Six cases of spring DRESS. *Ann Dermatol Venereol.* 2012;139:15–22.