

CONTACT POINT

Systemic allergic dermatitis caused by disulfiram (Antabuse) in a patient previously sensitized to rubber accelerators

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Disulfiram (tetraethylthiuram disulfide; Antabuse) is an aldehyde dehydrogenase inhibitor widely used for the treatment of alcoholism. Chemically, it is a thiuram, and it is also used as rubber accelerator. Thiuram mix is composed of 4 thiurams, including disulfiram, all of which are used in rubber manufacturing and are included in most patch test base-line series. Thiurams can be found in industrial and domestic rubber products, and are common causes of allergic contact dermatitis (ACD). Concomitant sensitization between thiurams is frequent.^{1,2}

CASE REPORT

A 53-year-old man with plaque-type psoriasis presented to the emergency room with a 10-day history of rash, fever, chills, and vomiting. He suffered from chronic alcoholism, and had been previously diagnosed with ACD caused by rubber products, with positive patch test reactions to “thiurams”. Physical examination showed an erythematous and scaly rash affecting the face, trunk, and extremities (Figure 1). Laboratory workup showed leukocytosis (17 230 / μ L; 79.2% neutrophils), an increased C-reactive protein level (22.95 mg/dL), and abnormal liver function test results (aspartate transaminase 110 U/L, alanine transaminase 183 U/L, and conjugated bilirubin 4.90 mg/dL). Acute psoriasis with sepsis of cutaneous origin was suspected. Antibiotic therapy with linezolid and piperacillin-tazobactam, and treatment with topical and intravenous corticosteroids, were started, with no clinical improvement. The antibiotics were changed to meropenem plus daptomicin, with no clinical response. All blood cultures remained negative. Urine alcohol tests gave negative results. An abdominal ultrasound scan and a transthoracic echocardiogram showed no pathological findings. When the patient was questioned again, he reported having started alcoholic detoxification therapy on his own initiative a few days before the onset of symptoms. He had been taking Antabuse since then, even while in hospital, but he had

not informed his care providers. Given his history of ACD caused by thiurams, systemic allergic dermatitis (SAD) was suspected, and the use of Antabuse was suspended. During the following day, his fever, chills and vomiting remitted, and the rash resolved within 2 weeks. He remained asymptomatic with normal laboratory values in the follow-up visits. Eight months later, he was patch tested with a rubber additive series (allergEAZE patch test chambers) and Antabuse capsules diluted 30% pet. The exposure time was 2 days, and readings were performed and scored according to ESCD guidelines.³ Positive results were obtained with disulfiram (both tetraethylthiuram disulfide and Antabuse) (+++ on day [D] 2 and D4), as with multiple other rubber compounds (Figure S1).

DISCUSSION

SAD is a systemic hypersensitivity reaction occurring in individuals previously sensitized by skin contact after subsequent systemic re-exposure to the same or cross-reacting substance. The mechanisms behind SAD are poorly understood, but it is thought to represent a T cell-mediated delayed hypersensitivity reaction. The clinical presentation is usually eczematous dermatitis, frequently with a flexural predominance. Systemic symptoms may also occur, including headaches, fever, malaise, nausea, vomiting, and diarrhoea.⁴

In our patient, the rapid improvement after suspension of the drug and an extreme positive patch test reaction confirmed the suspicion of SAD caused by oral administration of Antabuse. In 1962, Wilson described, for the first time, violent SAD following systemic exposure to disulfiram.⁵ Since then, very few similar cases have been reported in the literature. SAD caused by implanted disulfiram has also been described.⁶ Diagnosis is difficult, and this may result in the performance of unnecessary medical tests and the administration of incorrect treatments, as in the present case. We think that patients



FIGURE 1 Clinical picture of the patient: erythematous and scaly generalized rash

should be questioned carefully regarding possible rubber contact allergy prior to the administration of Antabuse, to avoid potentially serious hypersensitivity reactions.

Conflict of interest

The authors declare no potential conflict of interests.

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.

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