

Allergic Contact Dermatitis from Cyanamide

Izaskun Trébol, Olatz Lasa, Belén Navajas, Juan Antonio Ratón, and Jose Luís Díaz-Pérez

Cyanamide (carbimide or calcium carbimide) has been used to treat chronic alcoholism for more than 45 years. The skin reactions provoked by this medication are very rare and are generally associated with systemic reactions after ingestion of the product. However, allergic contact dermatitis has also been detected on persons who prepare cyanamide for administration to patients. We present a case of work-related allergic contact dermatitis from cyanamide that was confirmed by patch testing.

CALCIUM CYANAMIDE is a drug (sold as Colme; Ipsen Pharma SA, Barcelona, Spain) used for the treatment of patients suffering from chronic alcoholism. Its action mechanisms consist of the inhibition of a hepatic enzyme (aldehyde dehydrogenase) needed for the metabolism of alcohol. When cyanamide-treated alcoholics consume ethanol, their blood acetaldehyde levels rise, resulting in unpleasant sensations known as the Antabuse effect (violent headaches, nausea, vomiting, facial congestion, etc).^{1,2} Two kinds of cutaneous side effects have been described: (1) systemic skin reactions in patients who take the medication and (2) contact allergic dermatitis in assistants and nurses who dispense the medication.

Case Report

A previously healthy 34-year-old woman was referred to our department with a pruritic erythematous vesicular dermatitis on her hands and on her left wrist. She worked in a geriatric hospital, performing cleaning activities and dispensing drugs to the patients. She associated the lesions with the handling of Colme in her work because the skin eruption appeared after she had spilled the product on her hands while opening the bottle to prepare the medication.

Initially, patch tests were carried out with the Grupo Español de Investigación de Dermatitis de Contacto standard series and with the product dissolved in 10% and 50% aqueous (aq) solutions. The results were positive for thimerosal and both solutions. Recently, the study was

extended by the decomposition of Colme into cyanamide and excipients, and positive results with cyanamide 0.5% and 1.0% aq were seen (Table 1). The results with cyanamide 1% aq in 12 controls were negative.

The diagnosis of allergic contact dermatitis due to cyanamide was made. The patient has presented no further lesions since having avoided contact with the drug.

Discussion

The skin eruptions induced by cyanamide are very rare. Two types have been described: (1) systemic skin reactions in patients who have consumed the medication³⁻⁶ and (2) allergic contact dermatitis in assistants and nurses who dispense the medication.^{1,2,7}

Systemic skin reactions in patients who have ingested this medication include lichen planus-like eruptions and exfoliative dermatitis.³⁻⁶ Cases of allergic contact dermatitis are more rarely found. Initially, cases were described in patients who used the cyanamide as a chemical product in their work.¹ Recently, five cases of allergic contact

Table 1. Patch-Test Results

Allergen	Concentration and Medium	48 h	96 h
GEIDC standard series			
Thimerosal		—	++
Colme	10.0% aq	++	++
Colme	50.0% aq	++	++
Cyanamide	0.5% aq	++	++
Cyanamide	1.0% aq	++	++
Sorbic acid	2.0% pet	—	—
Acetic acid	3.0% aq	—	—

aq = aqueous; GEIDC = Grupo Español de Investigación de Dermatitis de Contacto; pet = petrolatum.

From the Department of Dermatology, Hospital de Cruces, Barakaldo, Vizcaya, Spain.

Address reprint requests to Izaskun Trébol Urra, Department of Dermatology, Hospital de Cruces, Plaza de Cruces s/n, 48903 Barakaldo, Vizcaya, Spain. E-mail: itrebur@aedy.es

dermatitis from cyanamide as medication have been reported. All cases occurred in assistants and nurses who dispensed the medication, and all cases were confirmed through patch tests.^{1,2,7} Goday and colleagues² concluded that cyanamide 1% aq is the most appropriate concentration with which to test these patients (as it was in our case).

References

1. Conde-Salazar L, Guimaraens D, Romeri L, Harto A. Allergic contact dermatitis to cyanamide (carbodiimide). *Contact Dermatitis* 1981;7:329-30.
2. Goday J, Yanguas I, Soloeta R. Allergic contact dermatitis from cyanamide: report of 3 cases. *Contact Dermatitis* 1994;31:331-2.
3. Torrelo A, Soria C, Rocamora A, et al. Lichen planus-like eruption with esophageal involvement as a result of cyanamide. *J Am Acad Dermatol* 1990;23:1168-9.
4. Kawana S. Drug eruption induced by cyanamide (carbimide): a clinical and histopathologic study of 7 patients. *Dermatology* 1997;195:30-4.
5. Abajo P, Feal C, Sanz-Sánchez T, et al. Eczematous erythroderma induced by cyanamide. *Contact Dermatitis* 1990;40:160.
6. Aguilar A, Gallego MA, Piqué E. Lichenoid drug eruption due to cyanamide. *Int J Dermatol* 1999;38:950-1.
7. Fernández de Corres L, Muñoz D. Allergic contact dermatitis to cyanamide. *Contact Dermatitis* 1982;8:346.