

Maculopapular rash to S-carboxymethylcysteine-lysine (carbocisteine)

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The chemical name of carbocisteine is S-(carboxymethyl)-1-cysteine (S-CMC).¹ It is a mucoregulatory drug² used to treat chronic obstructive pulmonary disease (COPD).¹ Although S-CMC is used for treatment of patients in all ages, from infants to elderly, few cutaneous reactions to this drug have been reported; the most frequent are delayed allergic skin reactions such as fixed drug eruption (FDE).²⁻⁴

CASE REPORT

A 64-year-old male with COPD was intermittently treated with several mucolytic and expectorant drugs. He was referred to our allergy department for a recurrent pruritic maculopapular rash without general symptoms or fever; he took paracetamol, ibuprofen, metamizole, and S-CMC (Pectox lysine or Mucovital; 2.7 g/d) in the week before each of the three episodes he presented.

The allergy workup was performed 10 weeks after the last episode. Patch tests with S-CMC (Pectox lysine and Mucovital), paracetamol, ibuprofen, and metamizole (30% in pet. and aq.) were performed on the affected areas on the left arm with readings on day (D)2, D4, and D7. All patch test results were negative. Twenty days later we performed an oral challenge test (OCT) with S-CMC (2.7 g administered in the morning) in the hospital. The OCT result was negative. We then told the patient to take the same dose of S-CMC the next morning, at home. The patient informed us that, when he woke up the second morning, he had to go to hospital because he had developed a pruritic skin rash on his arms, back, and chest (Figure 1). The subsequent OCTs with paracetamol, ibuprofen, and metamizole, respectively, were negative. The patient was eventually diagnosed with maculopapular rash caused by S-CMC.

DISCUSSION

S-CMC is a mucoactive drug that is well absorbed when taken orally. It is available as an oral preparation, both as S-CMC and as its lysine salt (S-CMC-Lys).¹ Our patient had taken both preparations (ie, with and without lysine) several times. We delayed the allergy work-up to



1 Maculopapular rash to S-carboxymethylcysteine-lysine (carbocisteine)

prevent false-positive results from skin hyperreactivity. As in other published cases⁵ and to obtain better results, we performed patch tests in the affected skin area but they were all negative.

Thiodiglycolic acid is an S-CMC metabolite formed only during the night; it has been assumed to be responsible for the FDE associated with S-CMC,² but it is not known if it could also be responsible for a maculopapular rash. We do not know either if the results of the patch tests in our patient would have been different if we had performed them at night and also with the metabolite. In conclusion, OCTs confirmed the diagnosis of maculopapular rash due to S-CMC and ruled out the involvement of other drugs, whereas patch tests were not useful for the diagnosis in this case.

CONFLICT OF INTEREST

The authors have no conflict of interest to declare.

AUTHOR CONTRIBUTIONS

Gomez Elisa: Validation. **Alberto Cañas:** Writing-original draft. **Rosa Garcia Rodriguez:** Validation; visualization. **Juana Bautista Joyanes Romo:** Writing-original draft. **Alejandro Raul Gratacos Gomez:**

Writing-original draft. **Alba Extremera Ortega:** Writing-original draft. **Oscar Marcelo Gonzalez Jimenez:** Writing-original draft.

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