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## Allergic Contact Dermatitis in Medical Professionals Due to Exposure to Ultrasound Gel<sup>☆</sup>



### *Dermatitis alérgica de contacto en profesionales médicos por exposición a gel ecográfico*

To the Editor,

There are numerous publications describing the development of allergic contact dermatitis caused by the presence of isothiazolinone, a preservative used in household cleaning and personal care products, as well as in materials for industrial use, such as paint and varnish.

Isothiazolinones are found in those products as a mixture of methylchloroisothiazolinone and methylisothiazolinone in a proportion of 3:1 (a compound known commercially as Kathon CG). They are heterocyclic organic components with powerful antibacterial and antifungal activities. However, they interact with epidermal proteins, and can induce allergic sensitivity. In Europe, they are the second most common cause of allergic dermatitis secondary to preservatives, preceded only by formaldehyde releasers; they have even been considered responsible for an “authentic allergy epidemic” because of their widespread presence in the market.<sup>1</sup>

Isothiazolinones are used as preservatives in ultrasound gels, and there are publications dealing with patients who have developed allergic contact dermatitis, in most cases after undergoing gynecological ultrasound or other procedures that involve the use of these gels.<sup>2,3</sup> However, there are few reports in the literature describing allergic contact dermatitis caused by ultrasound gels in health care professionals who carry out ultrasound studies.<sup>4,5</sup>

We present the case of a 28-year-old man, a rheumatologist with no history of allergies, who has worked for the last 10 years in a rheumatology department where he performed musculoskeletal ultrasound, without gloves, on a regular basis, using the ultrasound gel Mebaline® (Esteer PHARMA GmbH, Reilingen, Germany). The patient reported the appearance of pruritic, eczematous lesions on the outer side of the pads of the 4th and 5th fingers and in the middle segment of the 3rd finger of his dominant hand (Fig. 1). Erythema with a few vesicles and scaling were observed and painful fissures appeared that developed into skin atrophy over a 2-month period. The lesions did not improve with the application of moisturizing cream or intermediate-potency topical corticosteroids.

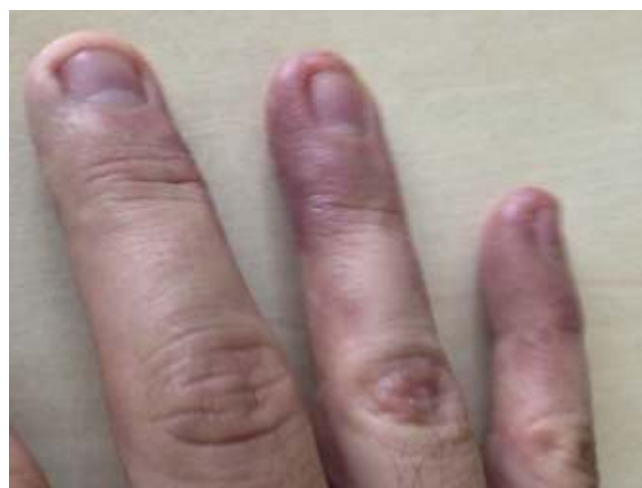
The composition of the ultrasound gel used was glycerin, carbomer, sodium hydroxide, propylene glycol, methylisothiazolinone, iodopropynyl, butylcarbamate and sodium chloride. As

dermatitis secondary to prolonged contact with the ultrasound gel was suspected (the lesions coincided with the areas of skin exposed to the gel during manipulation of the ultrasound transducer), patch tests were carried out for methylisothiazolinone and the ultrasound gel, with positive results for both substances (Fig. 2). The patient began to use latex gloves to avoid contact with the allergen and a moisturizer for his skin, and 3–4 weeks later, there was a marked improvement. In addition, the ultrasound gel was replaced by a hypoallergenic product.

Allergic contact dermatitis generally appears as a subacute or chronic eczema, especially on the hands and face (in the case of cosmetic use), and can sometimes mimic chronic irritant dermatitis. Logistic regression analyses have identified painters, blacksmiths, operators of industrial machinery and individuals whose profession involves the use of cosmetics as being at risk, especially those over the age of 40 years.<sup>2</sup> In the case we report here, the principal sensitizer was methylchloroisothiazolinone and the cause was prolonged exposure to this compound.

Allergic dermatitis produced by ultrasound gels is rare, and has mainly been associated with substances like propylene glycol, methylidibromo glutaronitrile, parabens, imidazolidinyl urea and isothiazolinones. The series published to date mention cases in which patients have undergone ultrasound examinations, but the medical literature makes no reference to health care professionals.

*Informative message:* any eczema located on the dominant hand in health care professionals who perform ultrasound examinations may be secondary to contact dermatitis caused by the ultrasound gel.



**Fig. 1.** Eczematous lesions with fissures in the skin on the outer side of the pads of the 3rd, 4th and 5th fingers of the dominant hand. Erythema with a few vesicles, scaling and painful fissures in the skin are observed.

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**Fig. 2.** Positive patch tests 72 h after exposure to methylisothiazolinone (top) and ultrasound gel (bottom).

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## Pulmonary Cyst Associated With Primary Sjögren's Syndrome<sup>☆</sup>



### Quistes pulmonares asociados a síndrome de Sjögren primario

To the Editor,

More than 50% of the patients with primary Sjögren's syndrome (pSS) have extraglandular manifestations, and pulmonary manifestations are observed in 10% of this patient population.<sup>1</sup> In 50% of the patients, the involvement is subclinical; however, symptomatic lung disease occurs in 10%. Interstitial lung disease is the most common disorder.<sup>2–4</sup> Cystic lung disease is reported much less frequently. This complication is characterized by foci of reduced lung density that have well-defined, thin walls (wall thickness less than 4 mm) and a diameter at their largest point of 1 cm.<sup>5</sup> We report the cases of 3 patients with cystic lung disease associated with pSS. All of them met the 2002 American-European classification criteria for the diagnosis of Sjögren's syndrome (SS).<sup>6</sup>

The 3 pSS patients were diagnosed, by means of high-resolution computed tomography (HRCT) of the thorax, as having associated cystic lung disease, together with centrilobular pulmonary emphysema, predominantly in the upper lobes in 2 of the 3 patients. There was no evidence of association with other lung diseases. We did not perform a histological examination, a study that had been described in other reports published up to that time.

### Patient no. 1

The first patient was a 74-year-old woman with an 18-year history of pSS. She presented with extraglandular manifestations, such as the vasculitis, polyarteritis nodosa. The most notable laboratory findings were hypergammaglobulinemia and anti-Ro and anti-La antibodies. She was being treated with oral azathioprine at a dose of 50 mg/day. During follow-up she developed functional dyspnea grade II. The results of respiratory function tests were normal, and HRCT of the thorax revealed centrilobular pulmonary emphysema, predominantly in upper lobes, and images of thin-walled cysts predominantly in lower lobes (Fig. 1a). The same treatment was maintained, and there were no changes in the pulmonary lesions in subsequent visits.

### Patient no. 2

This patient was a 46-year-old woman with a 20-year history of pSS and diagnosed with IgA kappa myeloma. Her extraglandular manifestations were anemia and leukocytoclastic vasculitis, as well as polyarteritis and parotid gland enlargement. She was being treated with hydroxychloroquine (HCQ) 200 mg/day, oral pilocarpine 15 mg/day and rituximab every 6 months. Laboratory tests revealed elevated acute-phase reactant levels, anemia and lymphopenia, as well as hypergammaglobulinemia with an elevated IgG level and a monoclonal IgA kappa component. Tests for rheumatoid factor (RF), as well as anti-Ro and anti-La antibodies, were positive. During follow-up, she developed dyspnea on heavy exertion. Respiratory function tests revealed a mild restrictive ventilatory defect with a slightly reduced diffusing capacity of the lung for carbon monoxide (DLCO), and HRCT of the thorax

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