

CSF2RA and *CSF2RB*), and Dr Kazumitsu Sugiura (Fujita Health University) for genetic mutation analyses for GPP (*IL36RN* and *CARD14*).

CONFLICT OF INTEREST: None declared.

Natsuko NOGUCHI,¹ Takahiko SATO,¹
Hiroyuki ADACHI,² Takuya NAGAI,¹ Yayoi
TOMURA,¹ Aya TOYOSHIMA,¹ Tsutomu
TAKAHASHI,² Motomu MANABE,¹ Shin-Ichi
OSADA¹

Departments of ¹Dermatology and Plastic Surgery and ²Pediatrics, Akita
University Graduate School of Medicine, Akita, Japan

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Long-lasting allergic patch test reactions to dental metal allergens in a patient with palmoplantar pustulosis and pustulotic arthro-osteitis

Dear Editor,

Long-lasting allergic patch test reactions (LLAPTR) are positive patch test reactions persisting more than 2 weeks after application of the allergens.¹ LLAPTR are common, but the precise pathogenesis is still unknown.

A 73-year-old woman with sternocostoclavicular, spinal and digital hyperostosis was referred to us with slightly pruritic pustules, scales, crusts and erythemas on the palms and soles in March 2019. The patient had developed chronic obstructive pulmonary disease in 2002, palmoplantar pustulosis (PPP) and pustulotic arthro-osteitis (PAO) in 2003, and recurrent sinusitis from 1991 and tonsillitis from 2012. The patient had been an office worker exposed to passive smoking until 2002. Hypothyroidism was identified during initial checking.

Patch testing (International Contact Dermatitis Research Group criteria) was performed with a metal series (Torii Pharmaceutical, Tokyo, Japan) using Finn Chambers® on Scanpor® tape (Smartpractice Japan, Yamato, Japan) and Patch Test Panel® (S) (Sato Pharmaceutical, Tokyo, Japan) as the Japanese baseline series. Readings were performed on day (D)2, D4, D45 and D64. The patient showed positive reactions to platinum chloride 0.5% aq. at D2 (+), D4 (+) and D45 (+); palladium chloride 1% aq. at D2 (+), D4 (+), D45 (+) and D64 (+); indium trichloride 1% aq. at D45 (+) and D64 (+); and gold sodium thiosulfate in Patch Test Panel (S) at D2 (+), D4 (+), D45 (+) and D64 (+) (Fig. 1). The patient showed negative reactions to chloroauric acid 0.2% aq. at D2 (–) and D4 (–), though faint papules arranged in a ring were present at D45 (Fig. 1). The patient's dental metal crowns were composed of platinum, palladium, indium, gold, nickel, chrome, cobalt, zinc, silver, copper and iridium. Currently, 12 of the 19 dental metal crowns have been removed.

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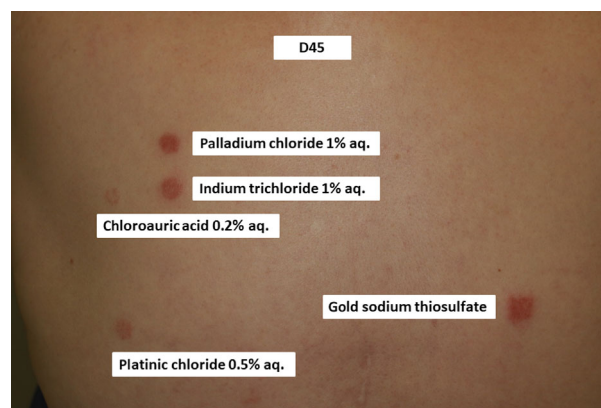


Figure 1. Patch test reactions at day (D)45.

Palmoplantar pustulosis is a chronic, relapsing, inflammatory skin disease characterized by the presence of multiple sterile pustules on the palms and soles. PAO is an inflammatory arthro-osteopathy recurrently accompanying PPP. PPP is usually induced and aggravated by smoking and infectious agents.^{2,3} Currently, it is suggested that a dental metal allergy is not the main cause of PPP.³ Kouno *et al.*² performed dental metal removal in nine PPP patients with positive metal patch test reactions to dental metal and showed marked improvement in one patient and partial improvement in two patients.² Until now, the relationship between PPP and LLAPTR to metal allergens has not been reported as far as we know.

Mancuso⁴ speculated that LLAPTR putatively involve constant antigenic stimulation and/or a defect in cell-mediated immunity downregulation. Schmidt *et al.*⁵ showed that

sensitization to contact allergens induces strong, long-lasting local memory and a weaker, temporary generalized immunological memory response to the allergen through CD8⁺ skin-resident memory T cells. We hypothesize that LLAPTR to dental metal allergens may occasionally aggravate PPP and PAO through a continuous supply of CD8⁺ skin-resident memory T cells to the inflammatory PPP and PAO lesions. Further study of the relationship between LLAPTR and dental metal allergens and the aggregation of PPP and PAO is needed.

CONFLICT OF INTEREST: None declared.

Maiko KATO, Naoki OISO,  Shigeto YANAGIHARA,  Akira KAWADA

Department of Dermatology, Kindai University Faculty of Medicine, Osaka, Japan

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Cold urticaria comorbid with heat urticaria: A case report

Dear Editor,

Cold urticaria is the third most common type of physical urticaria, after mechanical and cholinergic urticaria, with an estimated incidence of 0.05% in Central Europe.¹ The rare heat urticaria accounts for approximately 1% of physical urticaria cases.² Currently, only six cases of cold urticaria comorbid with heat urticaria have been reported. Among these, comorbid cholinergic urticaria was noted in one case,³ and four of six cases showed improvement. Among all reported cold urticaria cases, 12% also had mechanical urticaria and 8% had cholinergic urticaria.⁴

In January 2016, a 46-year-old woman began to develop several small red rashes, which appeared on exposed skin in cold locales. Additionally, she began to develop similar rashes on her entire body after consuming warm food/drinks in March. A sweating disorder was not recognized. She was referred to our department in April. Her past medical history included a latex allergy diagnosed in her 20s, and oral allergy syndrome against bananas, buckwheat, eggs, tree nuts and bean sprouts diagnosed in her 30s. She had no other medical history. A cold stimulation test was completed by placing a plastic bag containing ice water on her forearm for approximately 5 min. She developed localized wheals in the area exposed to the cold application, indicating a positive test result (Fig. 1a). Next, a hot pack of approximately 40°C was applied to the forearm for approximately 5 min. She developed localized wheals in the area exposed to the heat application, indicating a positive test result (Fig. 1b). In addition, punctate wheals (size, ~1–3 mm) appeared around the site of the heat application, with prickling sensations when the patient felt heat on the upper arm

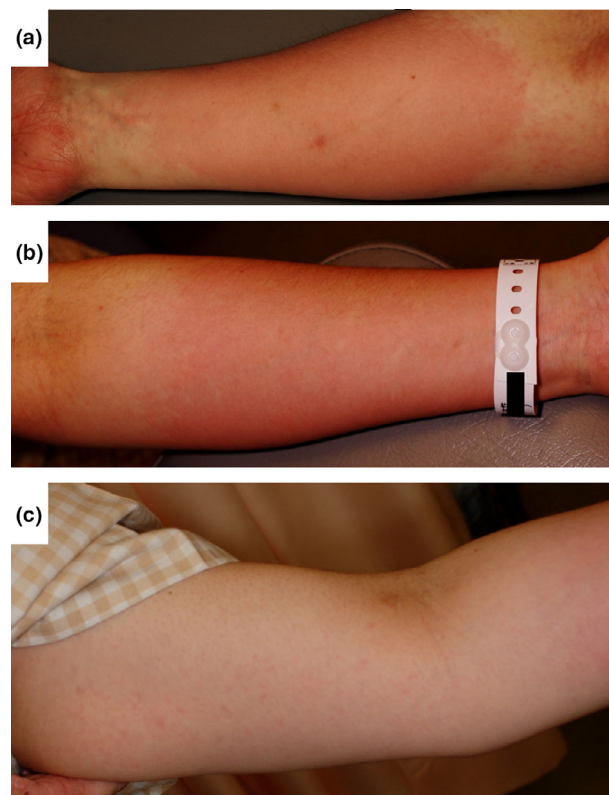


Figure 1. (a) After the cold stimulation test, wheals were visible. (b) After the heat stimulation test, wheals were observed. (c) After the heat stimulation test, cholinergic urticaria appeared around the stimulation site.