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LETTER TO THE EDITOR

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Metal patch test on oral lichen planus and a history of hepatitis C virus infection

Dear Editor,

Oral lichen planus (OLP) is a chronic inflammatory disease affecting the oral mucosa.[1] Its etiology remains elusive; however, some trigger factors, including viral or metals, have been suggested.[2]

We examined 51 patients who were diagnosed with OLP by biopsy in the Department of Oral and Maxillofacial Surgery, Okayama University Hospital, between 2013 and 2017, and referred to our department to undergo a patch test (PT) on metals.

Herein, we report the results of patch tests and whether these patients have been infected with hepatitis C virus (HCV).

Regarding metal patch tests, the allergens were supplied by Torii Pharmaceutical Co., Ltd. Seventeen types of metal reagents were used, including 2% aluminum (Al) chloride, 2% cobalt (Co) chloride, 1% stannic (Sn) chloride, 2% ferric (Fe) chloride, 0.5% chloroplatinic (Pt) acid, 1% palladium (Pd) chloride, 2% manganese (Mn) chloride, 1% indium (In) trichloride, 1% iridium (Ir) tetrachloride, 2% silver (Ag) bromide, 0.5% potassium bichromate (Cr), 2% chromium sulfate (Cr), 5% nickel (Ni) sulfate, 2% zinc (Zn) butter, 0.2% chloroauric acid (Au), 1% copper (Cu) sulfate, and 0.02% mercuric (Hg) chloride.

The allergens were applied to the upper arm using a Patch Tester (Torii Pharmaceutical Co., Ltd.) for examination using the criteria of the International Contact Dermatitis Research Group.

As a result, 26 patients (51%) were positive for the metals, and 25 (49%) were negative. The positive results were obtained with Zn (17 cases, 33.3%), Co (5 cases, 9.8%), Ni (3 cases, 5.9%), Au, In, Hg, and Pd (two cases each), and Ag, tin, and Cr (one case each).

Subsequently, metallic elements in the oral cavity were analyzed in 9 of the 26 patients who were positive for any of the metals, after obtaining an informed consent. Of the nine patients, six patients underwent metal removal if desired, resulting in no change in the symptoms of OLP.

Although Zn yielded a high positive rate in the PT, stimulatory reactions may have been incorrectly determined to be positive because of different examiners in each case. In the metal series, which is routinely employed in Japan, Zn is likely to cause stimulatory reactions due to adjustment for 2% pet. In addition, the appropriate concentration of pet zinc chloride is reportedly 0.5%.[3]

The relationship between lichen planus and HCV has recently been reported.[4]

Although the average worldwide prevalence of HCV infection, according to World Health Organization data, is between 0.5% and 1.0%.[4] In our department, of 40 patients with a description about the presence or absence of history of HCV infection in medical records, 3 (7.5%) were positive for HCV.

There was no record on HCV infection in 11 cases (21.6%), suggesting the necessity of medical intervention in collaboration with the Department of Oral and Maxillofacial Surgery.

The 51 patients with OLP who were referred to our department by the Department of Oral and Maxillofacial Surgery for a patch test showed a high morbidity of hepatitis C, although its relationship with metal allergy remains unclear. More cases should be collected for further investigation in the future.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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