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Oral Lichen Planus Well-Treated with Kampo Medicines: Two Case Reports

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Abstract: *We report the cases of two patients with oral lichen planus (OLP), who underwent effective treatment with the Kampo medicines (KMs): orento or hangeshashinto. These KMs are indicated in Japanese health insurance for the relief of stomatitis, but the effects of these medicines on OLP have not been established. We treated two females (69 and 54 years old) with OLP: one with orento (5.0 g/day) and one with hangeshashinto (7.5 g/day). Both KMs showed inhibitory effects on OLP and improved the patients' health-related quality of life (HRQoL) scores on the Short-Form 8 health survey and their oral HRQoL scores on the General Oral Health Assessment Index. Significant adverse events did not occur. Orento and hangeshashinto may thus be useful for the treatment of OLP.*

Keywords: *Oral lichen planus, Kampo medicines, Orento, Hangeshashinto*

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I. Introduction

Oral lichen planus (OLP), a chronic inflammatory disease affecting the oral mucosa (cheek, gingiva, tongue, lips), is morphologically classified into its reticular, papular, plaque, erythematous, atrophic, erosive, and vesiculo-bullous forms [1-4]. The potential factors contributing to OLP are thought to be viral infection, psychological stress, and dental materials [1-4]. The etiopathogenesis of OLP remains unclear. Numerous treatments with corticosteroids, retinoids, psoralen ultraviolet A light (PUVA), tacrolimus, cyclosporine, and such were proposed as curative for OLP [5-8], but the treatment of OLP remains nonspecific. Kampo medicines (KMs, i.e., Japanese herbal medicines) are effective for treating stomatitis [9]. The KMs: orento and hangeshashinto, are each indicated in the Japanese health insurance program for the relief of stomatitis. However, the effects of orento and hangeshashinto on OLP have never been specified. We treated two patients with OLP who were well-treated with orento or hangeshashinto.

II. Case report

Case 1

The patient was a 69-year-old Japanese female who visited the Department of Oral Medicine, Tokushima University Hospital because of buccal pain. She was in treatment for glaucoma. After her medical history was obtained, intraoral and extraoral examinations including a blood examination, culture, and salivation test were performed. She was diagnosed as having OLP based on the results of a biopsy (Fig. 1). Orento (TJ-120, Tsumura Co., Tokyo, Japan) was orally administered at 5.0 g/day. The orento treatment demonstrated inhibitory effects on the patient's OLP (Fig. 1). Adverse events and exacerbations of OLP were not seen. The patient's self-reported score on a visual analogue scale (VAS) representing stomatalgia was obtained twice: at 0 (baseline) and at 14 weeks after the initiation of the administration of orento. The self-administered questionnaires of the Japanese versions of the Short Form-8 (SF-8) and the General Oral Health Assessment Index (GOHAI), which are designed to measure the respondents' health-related quality of life (HRQoL) [10-13], were administered twice on the same baseline/14-week schedule.

The Japanese SF-8 consists of the following subscales: physical functioning (PF), role limitations due to physical health (RP), bodily pain (BP), general health perceptions (GH), vitality (VT), social functioning (SF), role limitations due to emotional health (RE), and mental health (MH). The subscales were scored using a norm-based method (NBM) that standardize the scores to a mean ± SD of 50 ± 10 as the Japanese average (2007), with higher scores indicating better health [14]. For summary score, a physical component summary (PCS) and a mental component summary (MCS) were also calculated by the NBM.

The Japanese GOHAI consists of 12 questions regarding physical/psychosocial functionings and the experience of pain/discomfort. The total scores of each question are summed as the GOHAI score, with higher scores indicating poorer health.

The patient's VAS value decreased from 50 at baseline to 0 at 14 weeks (Fig. 2). Her scores for the SF-8 subscales of SF, RE, and MH increased from 45.6 to 55.1, 48.0 to 54.2, and 44.9 to 50.7, respectively. Her PCS value changed from 54.9 to 52.1, and her MCS value changed from 43.2 to 51.8 (Fig. 2). Her GOHAI score increased from 42 to 57 (Fig. 2).

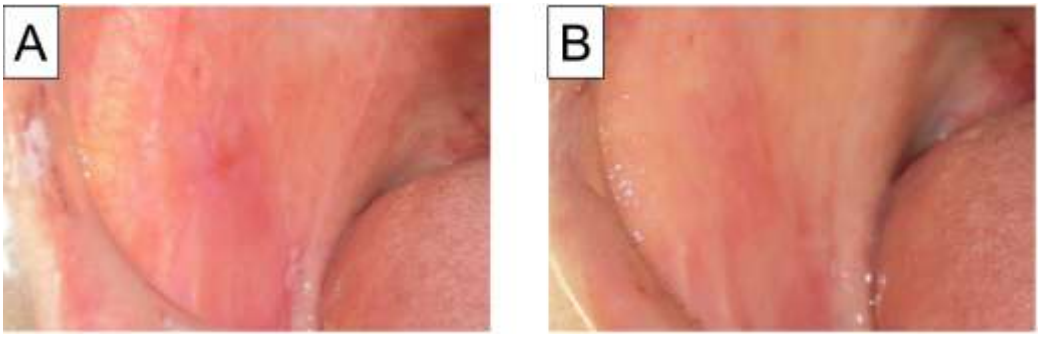

Fig. 1 Photograph of the reticular and erythematous lesions of buccal mucosa in Case 1. A: before the treatment, B: 14 weeks after the initiation of the treatment.

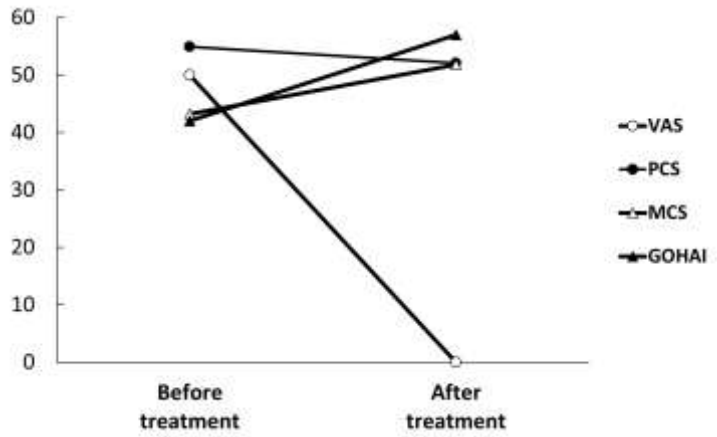

Fig. 2 Time course of the VAS, PCS, MCS, and GOHAI values during the treatment in Case 1. VAS, visual analogue scale; PCS, physical component summary; MCS, mental component summary; GOHAI, general oral health assessment index.

Case 2

The patient was a 54-year-old Japanese female who visited our hospital because of lower gingivalgia. She had an allergy to gold and was in treatment for familial hypercholesteremia. After her medical history was obtained, intraoral and extraoral examinations including a blood examination, culture, and salivation test were performed. She was diagnosed as having OLP based on the result of a biopsy (Fig. 3). Hangeshashinto (TJ-14, Tsumura Co.) was orally administered at 7.5 g/day. Hangeshashinto showed inhibitory effects on the OLP (Fig. 3). Adverse events and exacerbations of OLP were not seen. A VAS representing stomatalgia was administered twice: at 0 weeks (baseline) and at 9 weeks after the initiation of the hangeshashinto treatment. The Japanese SF-8 and the Japanese GOHAI were also administered at the same two points. The VAS value decreased from 67 to 0 (Fig. 4). The SF subscale value increased from 37.7 to 45.6. The PCS value changed from 38.1 to 35.8, and the MCS value changed from 44.1 to 47.4 (Fig. 4). The GOHAI score increased from 34 to 35 (Fig. 4).

In advance of this study, the procedure for this study was explained to the patients. Then, their informed consents were obtained.

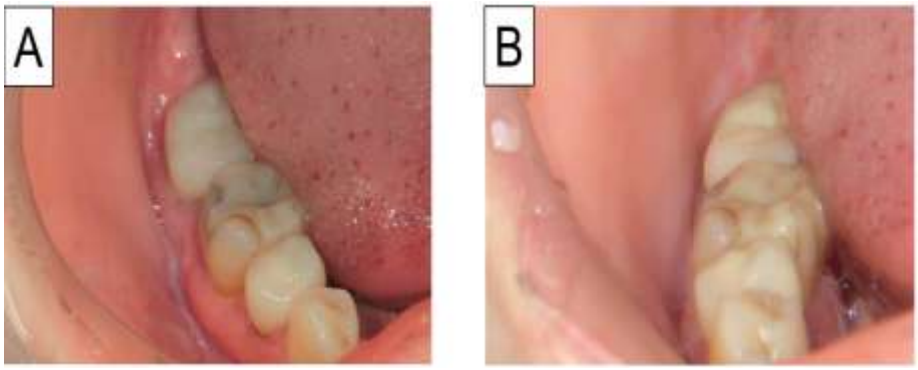

Fig. 3 Photograph of the reticular and erythematous lesions of lower gingiva in Case 2. A: before the treatment, B: 9 weeks after the initiation of the treatment.

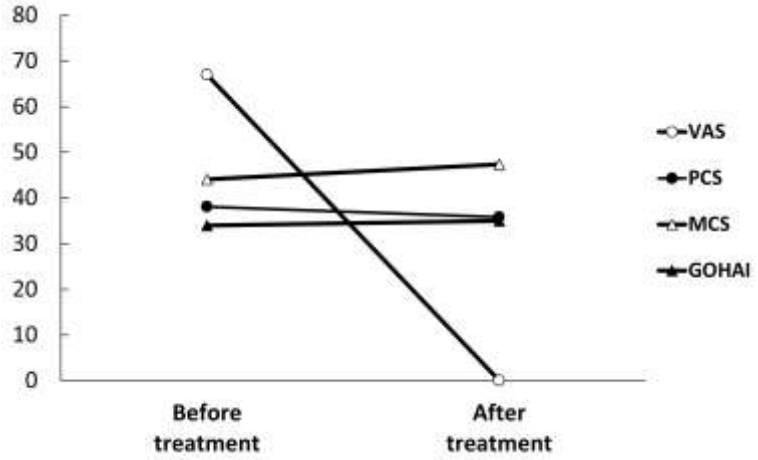

Fig. 4 Time course of the VAS, PCS, MCS, and GOHAI values during the treatment in Case 2. VAS, visual analogue scale; PCS, physical component summary; MCS, mental component summary; GOHAI, general oral health assessment index.

III. Discussion

Our two OLP patients were treated effectively with orento or hangeshashinto. The etiopathogenesis of OLP remains unclear, but immune-mediated pathogenesis and pathological roles of reactive oxygen species (ROS) have been discussed [1-3,15]. Although it is not known precisely how the KMs affects OLP, many of the KMs have anti-inflammatory and antioxidant activity [9,16,17]. Orento contains the following herbal extracts: pinellia tuber, coptis rhizome, processed ginger, glycyrrhiza, jujube, ginseng, and cinnamon bark. Hangeshashinto contains the following herbal extracts: pinellia tuber, coptis rhizome, processed ginger, glycyrrhiza, jujube, ginseng, and scutellaria root. Coptis rhizome, glycyrrhiza, cinnamon bark, and scutellaria root have anti-inflammatory activity [17-20]. Cinnamon bark blocks the activation of mitogen-activated protein kinases (MAPKs), extracellular-signal-regulated kinases (ERKs), cJun NH2-terminal kinases (JNKs), and p38 MAPKs [21], and it reduces the expression of tumor necrosis factor-alpha (TNF-α) [21]. It is of interest that TNF-α is hyper produced in OLP lesions [22-25]. TNF-α also plays important roles in the development of OLP [25]. Glycyrrhiza, ginseng, and cinnamon bark have antioxidant potential to scavenge hydroxyl radicals [20,26]. In fact, impairments of the balance between ROS production and ROS neutralization contribute to development of OLP [15,27,28]. Although our two patients had been struggling with OLP for years, no exacerbation of OLP has been seen since their treatment with these KMs. The effects of these KMs may be not only curative but also preventive. OLP has been generally regarded as a pre-cancerous condition, and oxidative stress may reflect in part the potential of the malignant transformation of OLP [29-31]. These KMs may thus contribute to the prevention of the malignant transformation of OLP.

OLP is not a life-threatening disease, but it often affects patients' daily lives. OLP can disturb a person's speaking, eating and swallowing, and this may well result in a diminished quality of life. The Japanese SF-8 is a smaller version of the MOS 36-Item Short-Form Health Survey version 2 (SF-36v2) plus a questionnaire to measure HRQoL in various diseases [11-13]. The Japanese GOHAI is valid specifically for oral diseases [32]. In our two patients, OLP had negative impacts on their general and oral HRQoL. The Japanese SF-8 consists of eight questions dealing with various physical and psychosocial aspects, and it is

summarized physically or psychosocially. A VAS is not suitable for dealing with psychosocial issues. Our OLP patients had poor baseline scores on almost all the subscales of the Japanese SF-8. Our OLP patients had a high disease burden physically and psychosocially, and thus psychosocial support such as stress relief should be considered for the care of OLP patients in addition to physical support. Our patients' cases demonstrated that both orento and hangeshashinto exerted curative effects on OLP and improved the patients' scores on the subscales of the Japanese SF-8 on the whole. Thus, these KMs were effective for the improvement of the HRQoL of the OLP patients. Based on the results of the Japanese SF-8, the KMs not only physically but also psychosocially supported.

IV. Conclusion

The KMs: orento and hangeshashinto, both exerted curative effects on OLP and effectively improved the HRQoL of the OLP patients. Orento and hangeshashinto may thus be useful for the treatment of OLP.

Competing interests

The authors have no conflict of interests to declare regarding this study or the publication of this paper.

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