

The effectiveness of the special nursing food of texture-modified *Washoku*

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Abstract

Washoku represents an essential spirit of the Japanese who respect the nature and life. We consider the hospital foods, especially nursing foods, should have the essence of Washoku. We made the Washoku recipe of the special nursing soft food prepared with the technique, "homogenous enzyme permeation". The texture of this special nursing food is able to be easily crushed with tongue, but the shape and the appearance is the same with the ordinary Washoku meal. We provided these special nursing foods to the aged female patient with dysfunction in mastication and appetite loss. She showed not only the improvement of appetite and general recovery from the weakness, but the revitalized spirit. This Washoku special nursing food would be effective for the Japanese aged patients with dysphagia or dysfunction in mastication.

Introduction

Washoku is a social practice based on an essential spirit of the Japanese who respect for nature and life. Washoku has been contributed to the healthy life of the Japanese¹⁾. Seasoning ingredients and nutrients are principle, and the appearance of foods and the matching table wares are also important in Washoku. We thought these factors of Washoku should be considered even in the hospital diets in Japan. Especially, the shape and appearance of foods is one of the key factors for promoting the appetite of the patients. Actually, our preference survey for the patients with difficulty in mastication showed many requests to eat diets with the usual Washoku appearance. We provided the special nursing soft food which preserved the shape and appearance of the usual food using the unique enzyme technique. We reported a

case of 89-year-old woman with heart failure and aspiration pneumonia, who showed the effectiveness of our special soft foods.

Case report

This case was a 89 years old female. She had repeated hospitalization many times because of the symptoms of chronic heart failure. She was hospitalized because of developing aspiration-related pneumonia with the aggravated heart failure. As she had the treatments for pneumonia and heart failure with total parenteral nutrition, her condition was improved. Her whole body muscles got weak by the long-term lying in bed. She showed disuse atrophy. Although the pneumonia and the heart failure were improved, the whole body weakness was not improved by malnutrition. She also showed dysfunction in mastication and severe

appetite loss. The blended soft foods were provided to her. However, she did not eat them because the appearance and shape of the blended soft foods did not touch her appetite. We made the Washoku recipe of the special nursing soft food prepared with the technique, "homogenous enzyme permeation". The texture of this special nursing food is able to be easily crushed with tongue, but the shape and the appearance is the same with an ordinary Washoku meal. In a short time after this special nursing food got started for this patient, her appetite was improved and she got started eating the whole of the meal. Her general status was getting better.

Results

After the providing the special nursing foods, her dietary intake increased and the consumption rate of meals was getting growing up to almost 100% (Figure.1). With increase of intake energy and nutrients,

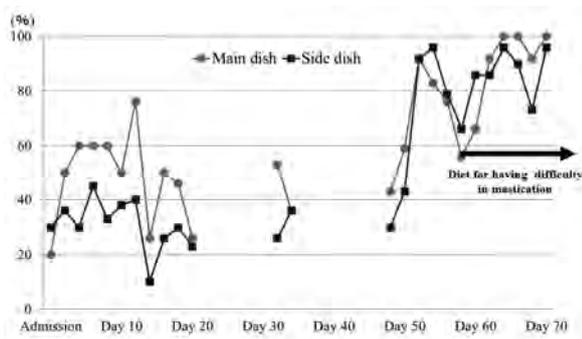


Fig.1. Daily consumption rate

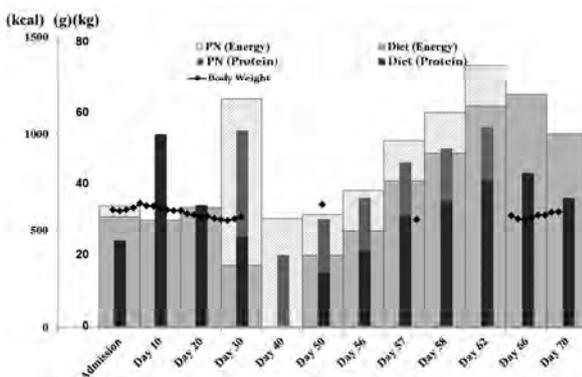


Fig.2. Changes over time in energy, protein and body weight

she gained weight (Figure.2). With her improvement of the albumin level which was the index of the nutritional state, she showed the normalization of CRP which was the index of inflammatory views (Figure.3). Her frailty was getting diminishing along with the improvement of the nutritional status, and it led to progress of her heart failure rehabilitation. Finally, she was discharged from the hospital.

Discussion

From April 2009, we have been using the special nursing foods, which the author described in this case report, in our hospital (Figure.4). To make the special nursing foods, the recent advanced food preparation technique was needed. The key enzymes for this method of softening foods were hydrolytic enzymes, such as proteases and cellulases²⁾. By infusing these enzymes into the original Washoku foods, the foods were

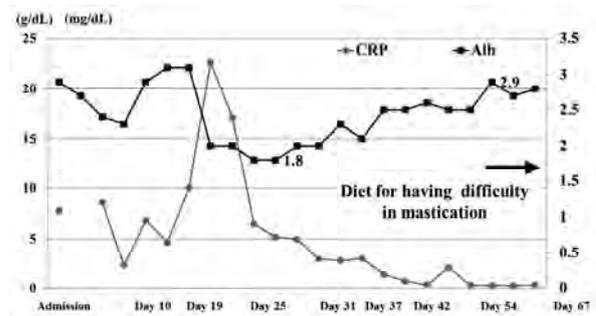


Fig.3. Changes over time in laboratory parameters



Fig.4. Soft diets which offer patients in our hospital

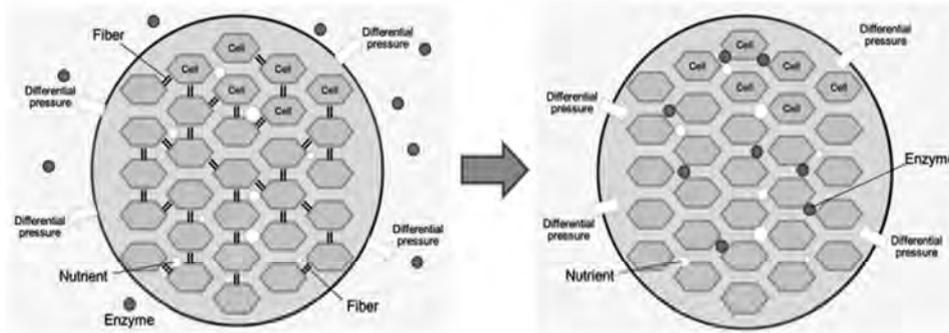


Fig.5. Homogenous enzyme permeation
 Homogeneous enzyme permeation method is a technique that evenly infuses the enzyme within the ingredients to adjust the entire meal to a homogeneous softness

made softened without changing the original appearances (Figure.5). This technique is called “homogenous enzyme permeation”.

In our hospital, we have been added the sense of Washoku to these special nursing foods by using the local seasoning ingredients and the very Japanese tableware.

The number of patients who needed the special nursing foods have been increasing recently. Figure 6 shows the number of

the patients who were provided the special nursing foods. The number of patients apparently has been increasing from January, 2014 to August, as increasing the number of the aged patients with dysphagia or dysfunction in mastication (Figure.6).

In our hospital, we had the survey of the special nursing diets for the patients with difficulty in mastication. The result of this survey showed the patients highly evaluated “appearance”, “easily chowing” and “softness” of special nursing foods (Figure.7).

We reported a case of 89-year-old woman with heart failure and aspiration pneumonia, to whom we serve these special soft foods. This case showed the efficiency of this Washoku special nursing foods for the patients with dysphagia or dysfunction in mastication. And at the same time, we think the important points were not only the appearance and a fragrance of special nursing foods, but the sense of the seasoning ingredients and the

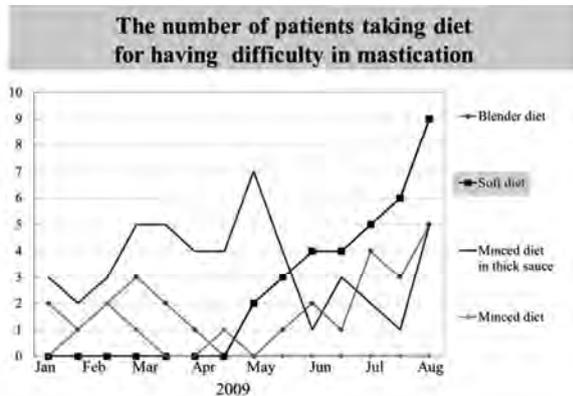


Fig.6. The number of patients taking diet for having difficulty in mastication



Fig.7. Preference survey of soft foods

Japanese food containers. These all of the factors led to the improvement of the appetite and the nutritional status of this case.

Washoku represents an essential spirit of the Japanese who respect the nature and life. The hospital foods for the aged Japanese patients, especially nursing foods, should have the essence of Washoku which they used to eat from the childhood.

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「咀嚼困難者食」の臨床的効果

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キーワード 摂食嚥下困難 誤嚥性肺炎 低栄養 フレイル 酵素含侵法

目 的

食欲低下した超高齢の誤嚥性肺炎、心不全症例において、当院で工夫している咀嚼困難者食の効果を検討した。

方 法

89 歳女性

以前より慢性心不全にて入退院を繰り返していたが、今回誤嚥性肺炎を発症し、感染を契機に心不全も急性増悪して入院治療となった。低体重・低栄養で frailty 目立つ。中心静脈栄養による栄養管理と心不全治療・肺炎治療を行い、病状改善し心臓リハビリと経口摂取を開始した。長期臥床による全身筋力低下も進行していたが、食欲低下のため食事摂取されない状態が持続。Frailty と入れ歯の不具合にて咀嚼困難なためミキサー食が提供されていたが、問診を行うと、食事の見た目や食感の悪さも食欲低下に繋がっていると考えられた。咀嚼困難者食を提供し、その後の摂食量と体重の変動・検査結果の経過を調査した。

結 果

咀嚼困難者食の提供で食欲の増加がみられ摂取量の増加が得られた (図 1)。ほぼ 100% の摂食量が得られるようになり、補給エネルギー・栄養素の増加に伴って体重増加が得られ (図 2)、栄養状態の指標となるアルブミン値の改善に伴い炎症所見の改善も認めた (図 3)。補給栄養素の改善により frailty の改善を認め、心不全リハビリの進行にも繋がり退院することができた。

考 察

誤嚥性肺炎・心不全悪化から frailty 進行し、心不全治療・肺炎治療後も食欲低下のため寝たきり状態となっていたが、咀嚼困難者食の開始から食欲の改善が得られ、全身状態の改善を認めた症例を経験した。当院で提供している咀嚼困難者食は、日本で開発された新技術により、同等の外観を有しながら舌で容易に押し潰せる柔らかさの食品を使用している。また、当院では見た目・香・季節感・器等にも配慮した病院食の提供を心がけている。今回、このような見た目や食感に配慮しつつ咀嚼も容易にした食事の提供により、食欲の増加が得られたものと考えられた。医療の現場では、食を栄養補給の手段として捉えがちであるが、それ以外に食は生命や生活にかかわる多様な意味を有しており、民族や文化にも関連していると考えられる。我が国における和食も、自然と生命の融合という日本人の意識の根底に繋がっていると考えられる。医療の現場でも、人としての尊厳と和食の文化を尊重した栄養治療が望ましく、患者自らの治る力に寄り添った医療の実践が重要であることが示唆された。

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