Introduction of pre-deglutition food for patients with muscular dystrophy and bulbar palsy

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Abstract

The Tokushima National Hospital is a neuromuscular diseases special hospital. Many patients have decreased deglutition function. With the reduction in the deglutition function, the diet form changes to a general diet, deglutition food, and finally a high density liquid diet. The deglutition food of our hospital is made by crushing cooking ingredients. Furthermore, an adhesive is added. The appearance, taste, and viscosity of the deglutition food were not liked by many patients. Therefore, the nourishment management room devised previous deglutition food. The patients of the muscular dystrophy that the subjects is hospitalized. Three kinds of diet were devised, as follows. Diet A, general diet was crushed in a food processor; Diet B, after having crushed general diet, a solidification supplement was mixed into it,; Diet C, a protein degrading enzyme was added to meat and fish. Thereafter, all the cooking ingredients were crushed, and a solidification supplement was added. Diet A had the fault that water separated out. There was the fault that meat and fish were hard to swallow in diet B. Deglutition was not a problem with diet C. All the diets were tasty. By use of the solidification supplement and the protein degrading enzyme, a diet which tasted similar to the general diet could be offered.

Keywords: pre-deglutition food, muscular dystrophy, bulbar palsy

Introduction

The Tokushima National Hospital is a special hospital for neuromuscular diseases. There are many patients whose deglutition function decreases. The meal types include a general diet, general diet, a soft vegetable diet, 70% rice porridge, 50% rice porridge, 30% rice porridge, fluid food. The deglutition food is of four kinds:
mouthful cut food, software food, rape / mimosa food, blender food. When a diet became the deglutition food from a soft vegetable diet, many patients were dissatisfied with the taste and the appearance. The deglutition food is made by adding mayonnaise and MCT oil to a crush cooking ingredients (Figure 1). Then an adhesive is

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added. Therefore, we devised previous deglutition food to improve the quality of life of the patients.

Subjects and methods

Three muscular dystrophy patients. Minced food (diet A) was made by crushing general diet. Afterwards, soup stock was added to the general diet, and after being crushed, diet B was made by adding a solidification supplement. After having mixed soup stock with a proteolytic enzyme case to meat and fish, diet C was made by crushing this (Figure 2). Food containing much starch, including noodles, is not suitable for an offer only by a crush. Therefore, udon, ramen and chow mein were provided as cooking ingredients before being processed in a blender after having an amylolytic enzyme added (Figure 3).

Results

The minced foods were tasty, but juicy, and the food broke up in the mouth. Therefore, the A food could not be offered to the patients. As for the B food, some meat became stuck in the oral cavity. However, this diet was easy to eat because of being aggregated. However, the patients said the following. The meat and the fish were hard, and the patients did not want to eat these because they win through up to the oral cavity, although vegetables were easy to eat. Many patients said that mixture foods (diet C) were easier to eat than diet B. The patients were asked whether the noodles were easy to swallow. They were also asked whether they were not sweet. They answered that they were not sweet and the taste of a source and the soup is steady.

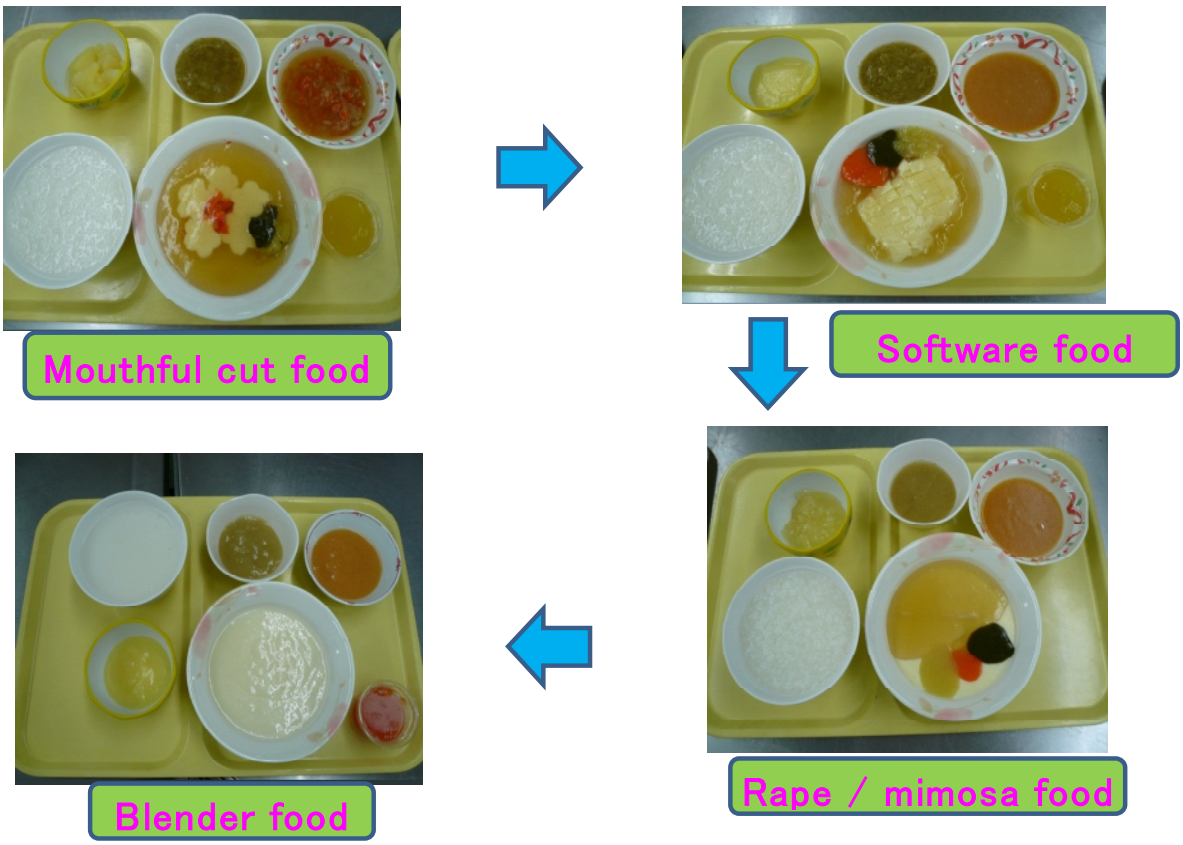

Figure 1. The deglutition food in Tokushima National Hospital.

Discussion

The deglutition foods of our hospital use oil and mayonnaise to add smoothness. As for the meat and the fish, taste is variable when using processed products. If the amylolytic enzyme "Matomeruko" is used this can prevent detached room water of the food. Also, there are a few changes of the taste because detached room water prevents by a little use. Papain, which is a proteolytic enzyme, is plant protease extracted from the fruit of the papaya. This enzyme hydrolyzes overall protein to small peptide and is stable because of its wide substrate specificity. Activity occurs at around 60 degrees. We used amylase for the processing of noodles. This enzyme hydrolyzes starch constituting polymerized glucose. The starch becomes sweet by hydrolysis. We will evaluate the change of dietary intake and the nutrition index objectively in the future.

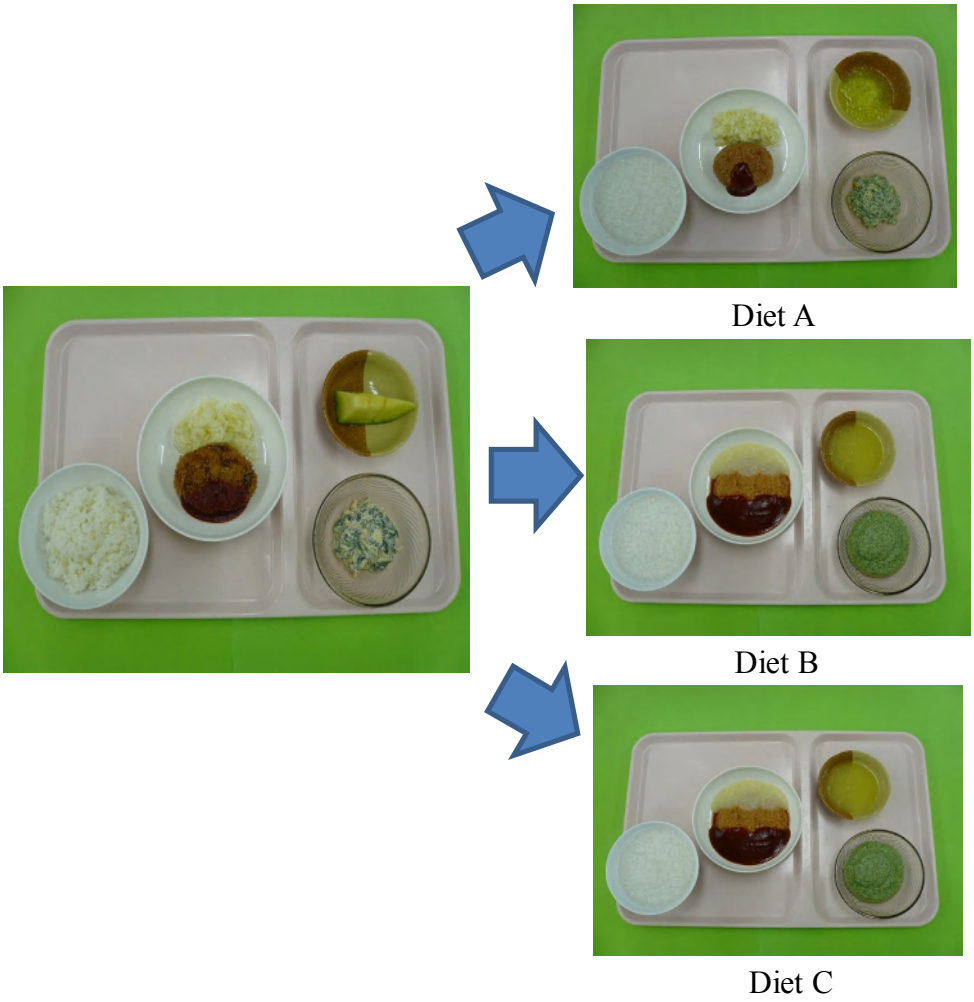

Figure 2. Three kinds of diet used in the present study

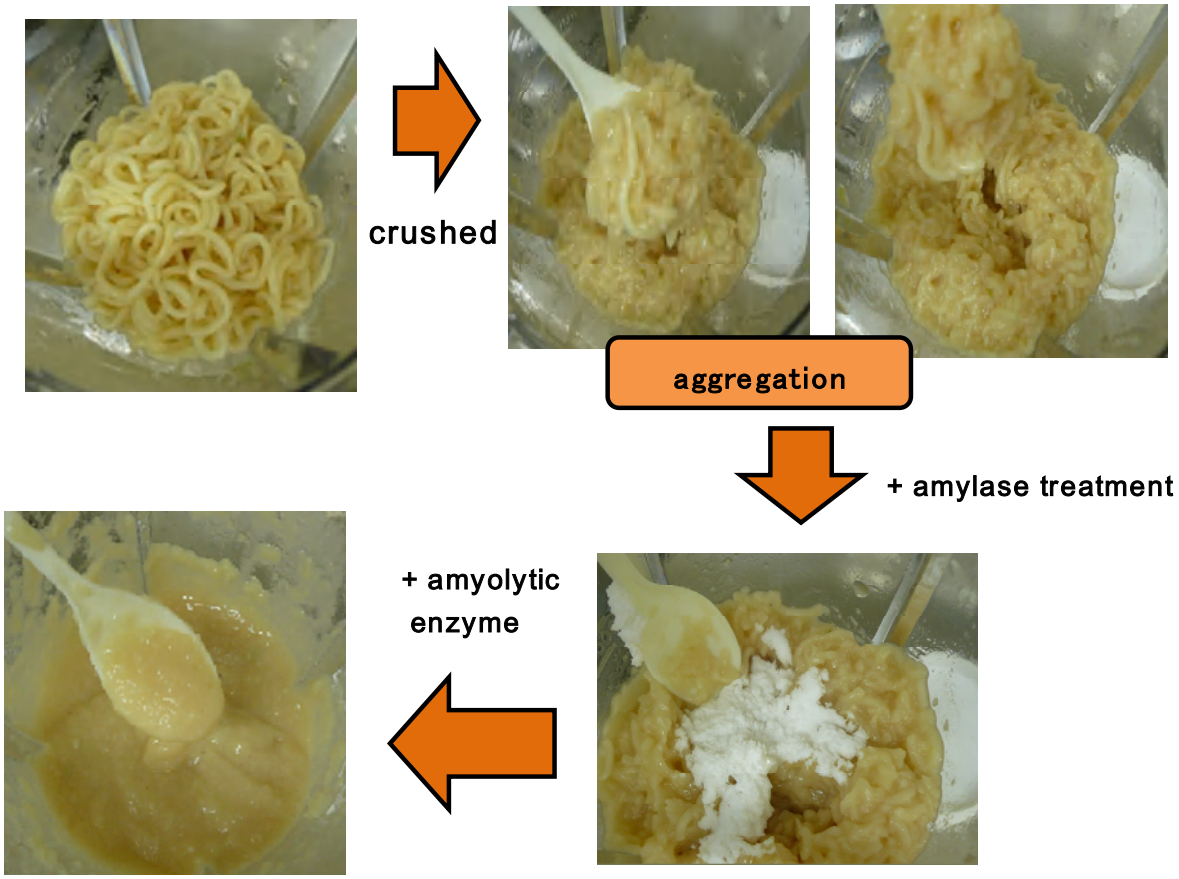

Figure 3. Treatment of noodles.