

Clinical trial

- Effect of Oryza Polyamine on the Fingernail Conditions -

Recently, interest in not only the skin beauty but also “the nail beauty” has been growing. Fingernails reflect a lot of our health conditions. For instance, age-related vertical ridges, horizontal ridges reflecting bad health condition and external stimuli, and hangnails caused by excessive dryness are typical sign (Table 2).

Table 2 Fingernail problems and causes

Fingernail problem	Cause
Vertical ridges	Aging
Horizontal ridges	Bad health condition, external stimuli
Hangnails	Dryness

To evaluate the effect of Oryza Polyamine on fingernail problems, we conducted a clinical trial. Subjects were randomly divided into two groups (placebo or Oryza Polyamine group). After ingestion of test sample (50 mg/day) for two weeks, the conditions of fingernails were evaluated by a microscope. As shown in Fig.13, the oral intake of Oryza Polyamine decreased the vertical ridge on nail surface and improved the hangnails.

Next, in order to assess whether Oryza Polyamine affect the ceramide content, we measured the amount of ceramide in fingernails. Ceramide is known to play a critical role in the barrier function and water retention in nails. As a result, while the amounts of total ceramides and ceramide 5 tended to decrease after 2-month ingestion in placebo group, the Oryza Polyamine group increased these contents in fingernails. Moreover, trans epidermal water loss (TEWL) was measured to assess the effect of Oryza Polyamine on water retention in fingernails. In the placebo group, the TEWL value increased by 28% and 53% after 1- and 2-month ingestion, respectively (Fig.15). In contrast, in the Oryza Polyamine group, the value decreased by 14 and 25% after 1- and 2-month ingestion, respectively. These results suggest that oral intake of Oryza Polyamine prevent the water loss from fingernails.

In summary, the oral intake of Oryza Polyamine increases the amount of ceramide and prevent water loss from fingernails. These results indicate that Oryza Polyamine improves the fingernail conditions to support “nail beauty”.

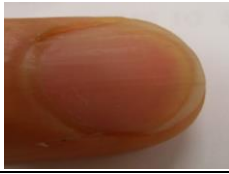
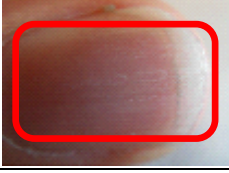
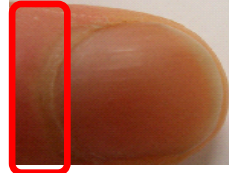
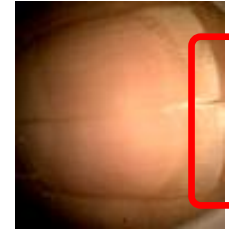
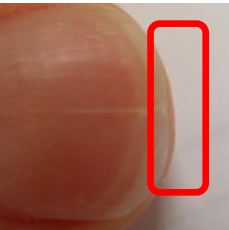
	Before intake	After intake (1 month)	After intake (2 months)
Placebo group <Subject 1>			
No change			
Placebo group <Subject 2>			
No change			
Placebo group <Subject 3>			
No change			
Oryza Polyamine group <Subject 1>			
Decreased the vertical ridge on nail surface			
Oryza Polyamine group <Subject 2>			
Improved hangnails			
Oryza Polyamine group <Subject 3>			
Improved nail cracking			

Fig.13 Effect of Oryza Polyamine on the fingernail problems (microscopic image)

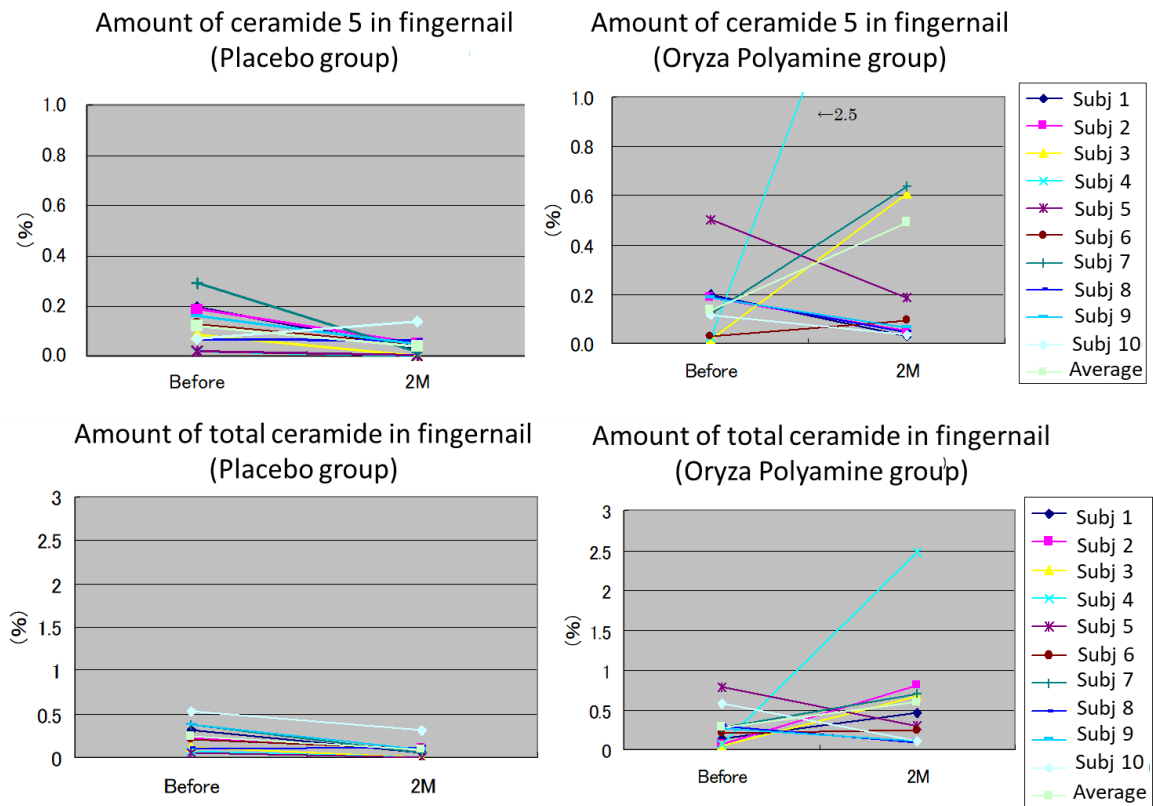


Fig.14 Oryza Polyamine increase the ceramide amount in fingernails

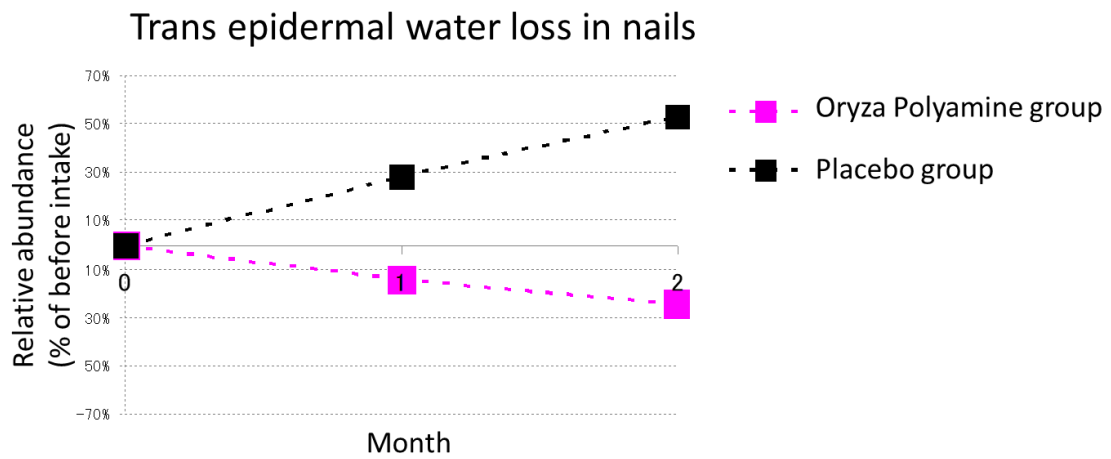


Fig.15 Oryza Polyamine decreases the trans epidermal water loss in fingernails