Camellia Newsletter

Vol. 181 February 23, 2018

Understanding of the mechanism of the intestines!

by Muneaki Takahata Ph.,D.

Digestive tract and digestive gland

When we eat, food is digested and then absorbed in the body as nutrients. The organ from which food goes through is called the "digestive tract". The gastrointestinal tract is composed as it follows by the oral cavity, pharynx, esophagus, stomach, small intestine and large intestine. Moreover, a liquid called "digestive juice" is secreted to break down nutrients like proteins, lipids and carbohydrates contained in food. The digestive juice is secreted in the gastrointestinal tract, but there are other organs that can make digestive juice. These are called "digestive glands" and include the salivary gland, liver, gallbladder and pancreas.

Intestine is an important place where nutrients are absorbed for the first time

When we eat food, nutrients are not absorbed directly from the mouth. The food goes into the stomach through the oral cavity and esophagus. The stomach is a step of digesting food and making it small. The food that passed through the stomach reaches the guts. Then it passes through the small and large intestines and is finally discharged as feces from the anus. As you can find in this process, it connects from the mouth to the anus as a single tube. In other words, the body resembles the structure of a macaroni. The hole in a macaroni is not the macaroni itself, likewise, the space within the digestive tract is not counted as the inside of the body.

Nutrients are absorbed into the body only after they reached to the intestines. More than 90% of nutrients are absorbed in the small intestine and the remains are absorbed in the large intestine. Even if you ingest a great deal of nutrition and quality foods, it will become a

“waste of talent” unless you properly take care of the balances in the intestines which are the entrance to the inside of our body.

Decomposition of food until reaching to the intestines

Food is chewed in the mouth and mixed with saliva. This is to make the food easier to swallow and promote digestion with enzymes contained in saliva. In the oral cavity, carbohydrates are mainly digested.

The food that passed through the esophagus reaches to the stomach. Since there is gastric juice in the stomach, the food that arrives here is sterilized by strong acid with a pH level of 1 to 2. Proteins are mainly digested in the stomach. The food mixed with stomach acid is delivered to the duodenum. Once this mixture is sent to the duodenum, it becomes a signal which will suppress the function of the stomach.

A time taken for digestion and absorption

The time for digestion and absorption is different from individual to individual. Depending on how much you ate and what you ate, a course of digestion and absorption will take about one day.

After foods enter the stomach, the time spent in the stomach is different depending on the type of food. The residence time in the stomach increases in the order of carbohydrate → protein → lipid and will be about 1 to 4 hours. Subsequently, it is transferred to the small intestine where it will stay for about 7 to 9 hours and then to the large intestine for about 24 to 72 hours. Then, it finally becomes feces and is discharged outside the body.

Nutrition and toxins that are absorbed from the small intestine and large intestine are transferred to the liver through the portal vein. The liver is responsible for important roles like the metabolism and storage of nutrients, detoxification and the synthesis and secretion of bile.