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Relationship between female hormones and intestines

by Muneaki Takahata Ph.,D.

Female hormones are a lifelong friend and deeply involved in the activity of intestines

You may have an experience of hearing from people saying generally “the intestines of men tend to be vulnerable and easily get diarrhea” or “many women have a constipation symptom”. These comments are deeply connected with a difference between men and women, in other words, with sex hormones, especially, the intestinal condition of women are affected greatly by the state of female hormones.

There are two kinds of female hormones: estrogen (follicle hormone) and progesterone (corpus luteum hormone). Female hormones change greatly with the menstrual cycle, pregnancy, around menopause, hormone therapies and so on. The ovary secretes female hormones in response to a command from the hypothalamus in the brain and female hormones course through the body via the blood stream. The two hormones act on women both physically and mentally by the change of their secreted volume in a constant cycle. Estrogen holds a prominent position from the period of menstruation to ovulation, progesterone holds a prominent position from the period of ovulation to the next menstruation.

Actually, estrogens influence the motility of intestines and other organs. During the period when a great volume of estrogens are secreted, intestinal movements become active. On the other hand, progesterone suppresses intestinal movements, retains moisture in the body, and increases our appetite. Once the amount of progesterone increases, the moisture absorption from the large intestine becomes more active which will result in the decrease of moisture in feces. In addition to this condition, due to the increased appetite, the amount of dietary intake increases which makes us prone to be constipated. The level of progesterone

rises during the pregnancy period which can drive pregnant women to become constipated or have more appetite.

Female hormones are not only related with causing constipation but also with the secretion of serotonin

Since female hormones act on the hypothalamus in the brain and autonomic nerves, they are responsible for our feelings. Once estrogens increase, the function of serotonin which is often called as the happiness hormone is normalized, our mental state becomes stable and our physical condition gets better. Conversely, when estrogens decrease and progesterone increases, the function of serotonin decreases which will drive us to be emotionally unstable and disturb our physical conditions. There is a gender difference in the response against stress but the state of female hormones is deeply involved in it.

Which gender has more IBS, men or women?

The main cause of Irritable Bowel Syndrome (IBS) is stress. A characteristic of this syndrome is a continuous symptom with abdominal pain and discomfort accompanying stool abnormality. Because of the influence from TV commercial and other media, many people believe that men are mainly susceptible to IBS, in other words, prone to get diarrheal conditions. However, in reality, the number of patients with IBS in Japan is twice as much greater in women than in men. To evaluate the severity of IBS on a global scale, 4 times more women are suffering than men. Actually, the idea of IBS equal to a diarrheal symptom is wrong. Certainly, many male patients are suffering from diarrheal symptoms, but many female patients often fall into a constipated condition.

The onset of IBS in women is linked to the disruption of hormonal balances

Scientist believes that female hormones strongly affect the morbidity rate and the aggravation of symptoms of IBS. In fact, about 40% of the female IBS patients have disorder of the menstrual cycle. The onset of IBS in women is linked with the period from adolescence to menopause. One of the characteristics is that many women develops IBS in their mid-teens to mid-40s known as the period that the hormone balances tend to be easily disturbed. Lack of dietary fiber is believed as a cause of developing constipation, but the disturbed female hormones and stress are also major factors. In addition, symptoms accompanying IBS among women are fibromyalgia, migraine, chronic pelvic pain, chronic fatigue syndrome and some others.

Intestinal bacteria are different by gender and are deeply involved in autoimmune diseases

Intestinal bacteria are deeply involved in health of intestines and play a very important role in the human immune system. Lately, scientists started discussing that the state of intestinal bacteria also different between a man and a woman.

A result of the research on the relevance of gender and meal contents among the test subjects with fish, mice and humans was published in the scientific journal Nature Communications. Based on the result of this research, the meal that fish, mice and humans ate, greatly influenced the balance of their intestinal bacteria. At the same time, the researchers found that there is a gender difference in the balance of intestinal bacteria.

The relationship between intestinal bacteria and sex hormones also reflect to the number of patients with immune-related diseases. In the United States, 8.5 million people suffer from autoimmune disease and 80% of them are female patients. Even in Japan, the proportion of patients with autoimmune diseases is 2 to 10 times more for women than men and researchers have started to pay more attention to the relationship between female hormones and immunity. Furthermore, experiments using mice showed that when male intestinal bacteria were transplanted into the intestines of females who developed autoimmune diseases, their symptoms were suppressed. This result suggested that the intestinal bacteria in different gender related to the state of diseases.

The reason why autoimmune diseases are more common in women has not been clarified yet. However, scientists estimate that characteristics unique to women may be related to changes in the state of immunity, such as being able to receive a fertilized egg – a half of it is not composed with own cells – without discharge to the outside of the body. In any case, women are prone to be susceptible to disturbed intestines. Therefore, it is important to have sufficient care for the intestinal environment on a routine basis.

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