

## CHAPTER FOUR

### THE LARGEST IMMUNE SYSTEM OF THE BODY IS IN THE INTESTINES

- 1 .**Comfort** inside the intestines is the basis of immunity
- 2 .**Constipation**, the most common intestinal disease
- 3 .**Prevention** of constipation
- 4 .**Cancer** of the large intestine to top the list of mortalities in the 21st century
- 5 .**Breast** cancer related with the intestines too
- 6 .**Soy** oligosaccharide may prevent cancers
- 7 .**Reducing** the cholesterol content
- 8 .**Reducing** blood pressure
- 9 .**Preventing** hemorrhoids
- 10.**Detoxification** and protecting the liver
- 11.**Reducing** the side effects of antibiotics
- 12.**Preventing** food poisonings

#### COMFORT INSIDE THE INTESTINES IS THE BASIS OF IMMUNITY

We are living in an environment filled with numerous bacteria, viruses and mucedines, etc. In spite of this, we don't always contract diseases. This is because the immunity is protecting our body.

We all know that wild animals will normally get well without any treatment when they fall ill. This shows that wild animals have extremely strong natural-cure ability in the body. The human body also acquires this function, with so many germs being killed soon after they enter the body. The gastric juice, the beneficial bacteria in the intestines, the leukocytes in the body, the bacterium-killing protein in the blood, the secreted juice of the trachea, the bile secreted by the liver, the healthy skin and its mucous membrane, the normal discharge of feces and urine, and so on are all important parts of the immune system.

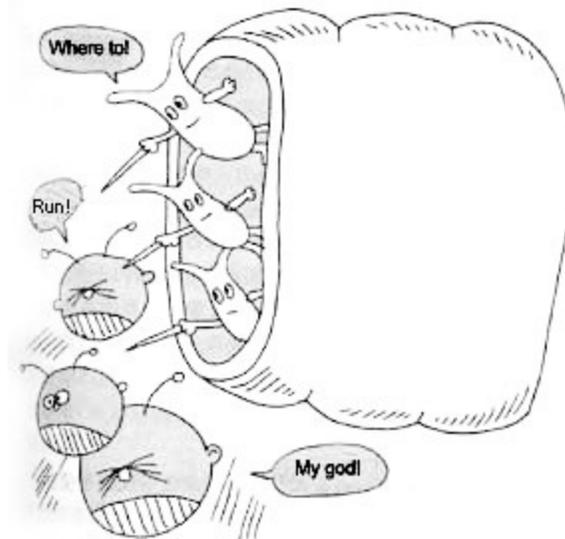
As a matter of fact, the human body has very strong natural-cure ability too. In one of its reports in 2001, a state scientific research institute of Germany said: "if all the materials able to cure diseases could be called ' medicines' , the human body itself might make more than ten thousand kinds of medicines and 70% of them are in the intestines. Ordinary diseases may be cured with these 'medicines' only. "

Now, most people have a little knowledge of immunity. But few people know that the largest immune system of the body is in the intestines. The intestinal bacteria play a key role in strengthening the immunity of the body.

As the saying goes, "diseases enter through the mouth". If a person's intestines are healthy with the florae inside in a balanced state, the bacteria entering through the mouth will be resisted by the beneficial bacteria in the intestines and prevented from going into other circulation systems. They will soon be discharged out of the body together with feces and urine, naturally being unable to cause diseases.

The human body's other immune and detoxifying systems such as the liver, the blood, the lymphatic system, etc all live on the nutrition supplied by the intestines. In this sense, it is not going too far to say that the intestines form the largest

immune organ in the body and the balance inside the intestines supports all the activities of life.



**Earnestly recovering the intestinal health is the basis for building up a healthy physique.**

Bifidobacteria acquire the immune role of catalyzing and activating the functions of lymphatic cells, macrophages and so on. This role has been proved by many animal tests. Based on these tests, the following judgement may be made: while bifidobacteria occupy the dominant position among the flora in the intestines, part of the tissues of the dead bacteria will be absorbed by the intestines, thus stimulating and strengthening the immunity. On the contrary, if the harmful immunity-inhibiting bacteria gain the upper hand, the immunity will be reduced.

In the case of a healthy person, the bifidobacteria are in a dominating state in the intestines. With the increase in age, however, bifidobacteria may decrease while the harmful bacteria such as *Bacteria welchii*, etc may take the dominant position in the intestines. One of the causes why the aged are liable to diseases lies in the reduction of the immunity caused by the changes in the intestinal flora.

**CONSTIPATION, THE MOST COMMON INTESTINAL DISEASE**

Constipation is the most common disease caused by the imbalance of the intestinal flora, which damages the immunity in the body.

Among the different types of constipation are the organic constipation caused by the intestinal abnormalities such as intestinal cancers, etc and the functional constipation caused by the reduction of intestinal functions.

Included in the functional constipation are:

Temporary pure constipation on business trips or travels;

Sustained constipation caused by the weakening colic function, mainly with women patients;

Proctogenic constipation mainly with old patients;

Constipation caused by mental pressure;

Spasmodic constipation alternating with diarrhea.

To define whether it is constipation or not doesn't depend on the times of the bowel movements only. If the stools, neither hard nor soft, pass smoothly, without any suffering felt, the people related are then considered free from constipation.

On the contrary, those who pass stools irregularly with suffering may be considered to have contracted constipation.

Constipation, at the initial stage, will not make you feel uncomfortable. With the gradual development of constipation, you may feel strains in the abdomen and find yourself in a state of suffering and inappetence. In the case of women, skin coarseness, pimples, skin ramentas, etc may appear, causing a lot of trouble to their appearance.

With respect to the state of the intestinal flora of the people with constipation, it may be found that, compared with the beneficial bacteria, the harmful bacteria occupy the dominant position and turn out large quantities of toxic substances, thus damaging the immune system. Among the toxic substances are quite a few substances sending out bad smells such as ammonia, hydrogen sulphide, indole, scatol, etc. The substances with bad smells produced in the body may be absorbed by the intestines and enter the skin through blood, further aggravating the foulness of the body.

We have, in chapter one, described the conditions concerning the halitosis caused by constipation. In addition, constipation may also drive high the blood pressure, be apt to produce carcinogens, accelerate ageing, cause pains in the shoulders, afflict easy mental restlessness, etc.

## **PREVENTION OF CONSTIPATION**

Since constipation may cause various upsets in the human body, how can it be eliminated then?



**A habit of going to the W.C. regularly everyday must be cultivated regardless of whether there is the sensation of bowel movements or not.**

First of all, take care not to deliberately hold back the stools. If the feces are repeatedly held back because of being busy or having no time, the feces will be kept in the body. As time goes on, the sensation of bowel movements will gradually disappear. Many people suffer from habitual constipation caused by this, which should, therefore, gain our special attention.

In addition, a habit of going to the W.C. regularly everyday must be cultivated regardless of whether there is the sensation of bowel movements or not. While the food is staying in the stomach, the intestines will make peristaltic movements because of the stimulation. Therefore, going to the W.C. regularly after meal is very helpful for preventing constipation. So long as we persist in doing so without any anxiety, the habit of passing stools regularly will be gradually cultivated.

Taking in sufficient water is also very important. The feces, if long kept in the intestines, will become dry and hard as most of the water is absorbed, which makes the feces even more difficult to pass out. While taking diuretic drinks containing spirit, it is advisable to drink more water (as compared with that in normal times).

Mental strain is the cause of spasmodic constipation. Doing some exercises you like, slightly sweating, or listening to music, etc may well relieve you of the mental strain.

If the above-mentioned methods are all used, constipation remains as usual, certain cathartics may be taken. However, if cathartics are excessively depended on, the function of the large intestine will be weakened, thus further aggravating the constipation.

In the final analysis, the most important method for preventing constipation is to maintain a balanced relationship among the flora in the intestines.

Firstly, making the bifidobacteria occupy the dominant position in the intestines is the key point of balancing the flora and preventing constipation. If the bifidobacteria gain the upper hand, the organic acids such as acetic acid, lactic acid, etc will increase and stimulate the intestinal walls, thus reaching the aim of passing stools in a natural way. Checking the multiplication of harmful bacteria may keep the intestines in a healthier state and prevent various diseases. This can be deemed as one stone killing two birds, or even three birds or four birds.

Secondly, pay attention to the diet. Nutritional balance should be maintained with monophagia being avoided. Foods with much meat should especially be kept away from while cereals like barley, highland barley, etc, rhizome vegetables such as potatoes, sweet potatoes, etc, mushrooms, seaweeds and so on should be often eaten. Rich dietary fibers may also prevent constipation.

Bifidobacteria are the first choice either for the prevention or the treatment of constipation, while soy oligosaccharide is the source of vitality of the bifidobacteria.

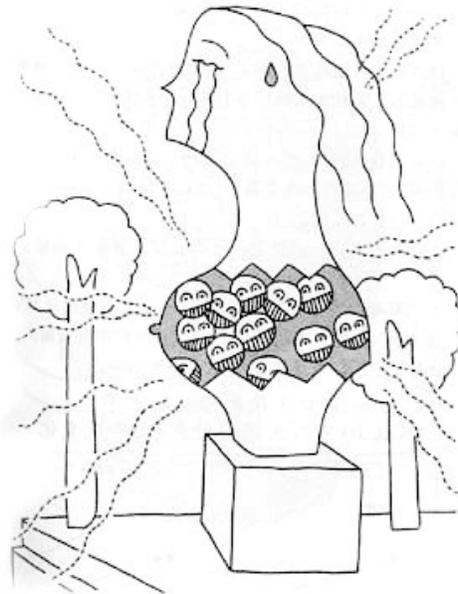
### **CANCER OF THE LARGE INTESTINE TO TOP THE LIST OF MORTALITIES IN THE 21ST CENTURY**

As reported in the "Statistics of The Population Conditions" by the Ministry of Wealth, Labor and Welfare of Japan, the number of people who died of cancer of the large intestine increased from 9,495 in 1972 to 27,287 in 1992, rising by 190% in 20 years. Meanwhile, 48,041 people died of gastric cancer in 1992.

Calculated in line with the above development tendency , the number of people dying of cancer of the large intestine will surpass that of those dying of gastric cancer by mid-21st century. Some specialists infer that cancer of the large intestine will be top of the list of mortalities in the 21st century.

Cancers are caused by various reasons, but the most important one is the effect of diets. The rapid increase in cancer of the large intestine and cancer of the breast, in particular, is brought about by the high-fat and high-protein diet of the American-European style.

From the statistics from the 25th year to the 50th year of Showa, we can see the changes in the Japanese dietary style.



**The rapid increase in cancer of the large intestine and cancer of the breast is brought about by the high-fat and high-protein diet of the American-European style.**

For instance, the consumption of meats increased by 1,200% to 1,300%, and, milk products, by 2,500%. On the contrary, the rice consumption saw a decline by 30%, while, potato and sweet potato, by 50% and 90% respectively.

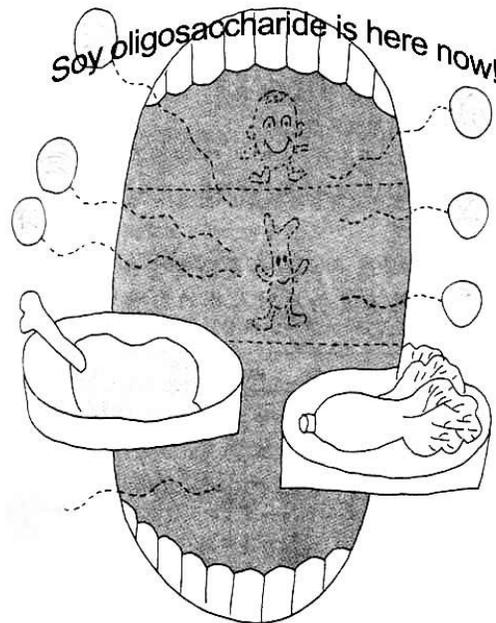
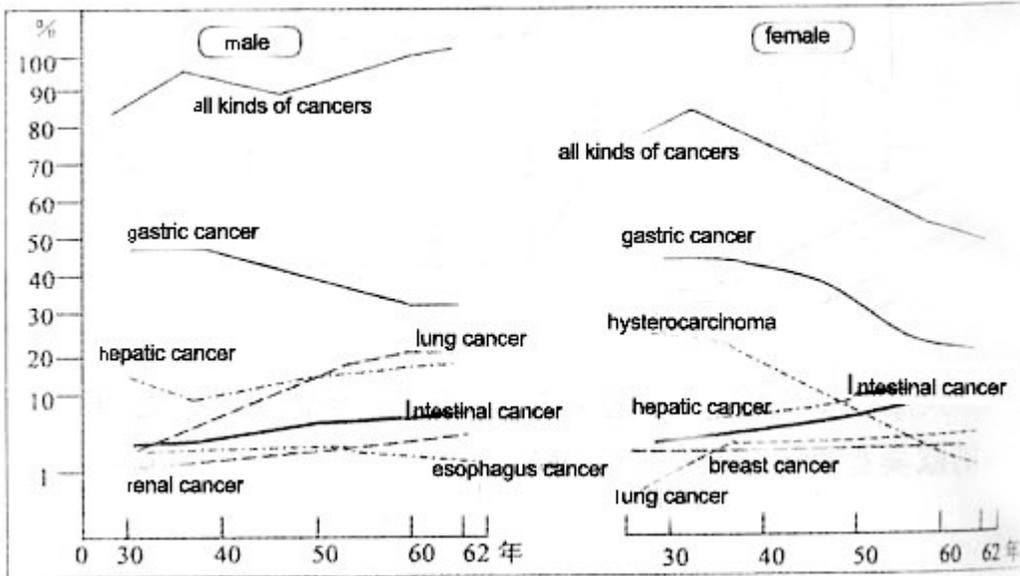
On the one hand, the health conditions of the Japanese have indeed been improved. On the other, certain disadvantages have occurred as well. One of them is the increase in the number of patients stricken with heart and large intestinal diseases. Since ancient times, gastric cancer and apoplexy have been the major diseases with the Japanese.

But now things have changed. Apoplexy that used to top the list of mortalities before has dropped down to the third place now, whereas heart disease has gone up to the second place, and cancer, the first place. But this is still changing.

Why is it that the high-fat and high-protein diet may become the cause of cancer of the large intestine?

Part of the meat food taken is not fully digested, and goes directly to the large intestine, where the fat and protein are decomposed by the harmful bacteria inside, turning out ammonia, hydrogen sulphide, scatol, indole and other harmful materials.

**Annual Changes in Mortalities of Cancers at Different Positions  
(a hundred thousand people investigated)**



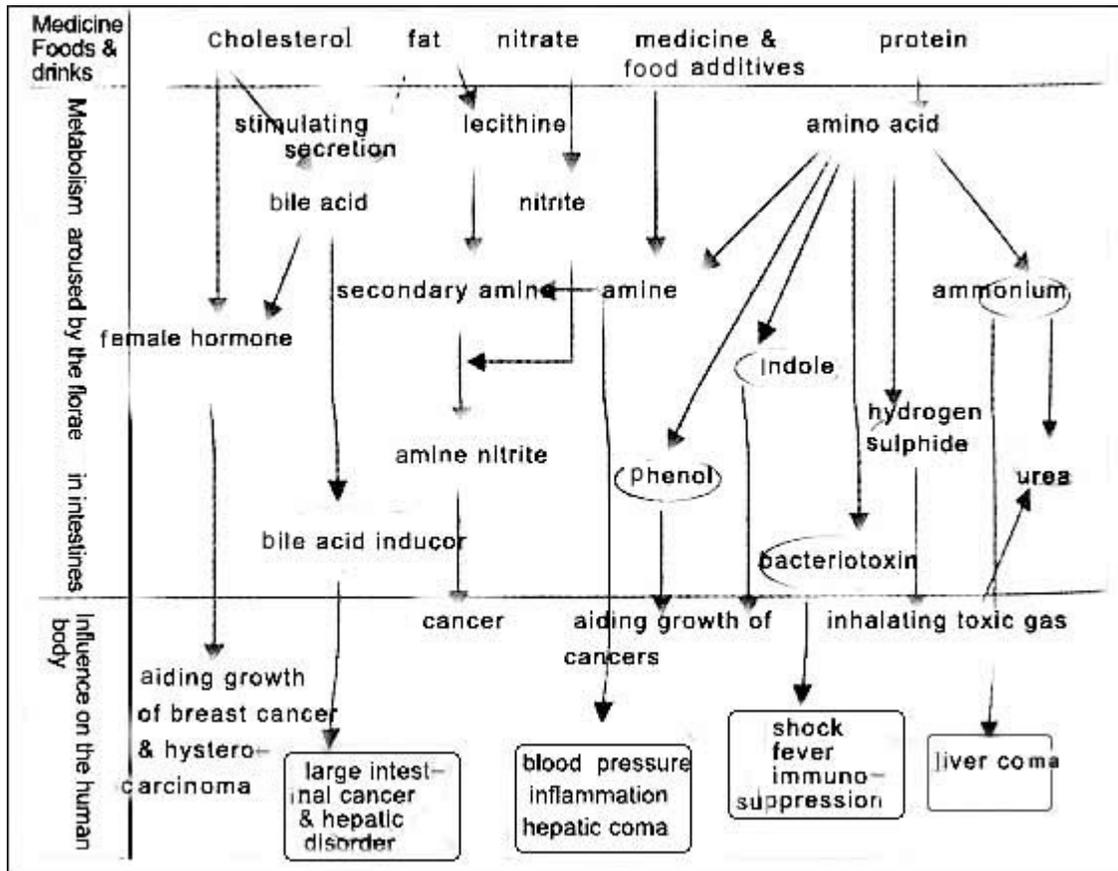
**How to eat rationally is a key problem for the modern people concerning their health**

Besides, if fat is taken too much, a large quantity of bile has to be secreted to digest it. The bile contains bile acid, which may be converted, by the bacteria in the intestines, into carcinogenic secondary bile acid.

In case the dietary fibers absorbed are not sufficient, the harmful substances may stay in the body, aggravating the adverse influence.

The recent tube tests made by Roland and Rasso in Britain have proved that bifidobacteria may effectively decompose the carcinogenic substance ammonia nitrite.

### The Harmful Substances Produced by the Intestinal Flora and Their Influence on the Human Body



### BREAST CANCER RELATED WITH THE INTESTINES TOO

As early as 10 years ago, *Sciences*, a magazine of America, pointed out that constipation was the indirect cause of breast cancer.

As reported in this magazine, from the screening of the breast cells from women who received breast cancer-preventive examinations from the University of California, it was found that most of the abnormal breast cells (referred to cells liable to turn into cancer cells) were from the women passing stools less than twice each week (that is,

stricken with constipation).

On the contrary, only 5% of the abnormal breast cells were from the women passing stools more than once a day.

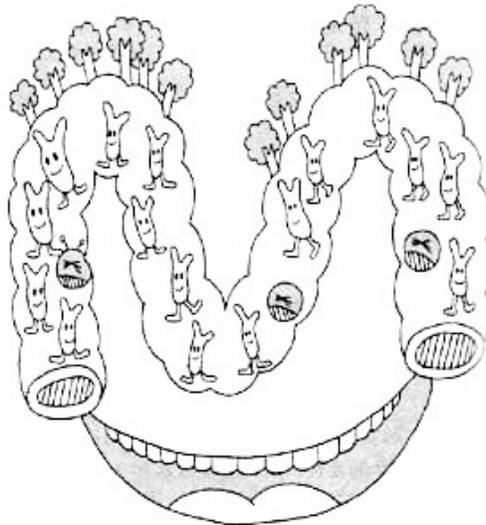
This investigation proves that chronic constipation with women has relatively high possibilities of causing breast cancer.

Meanwhile, the injection of female hormone is obviously one of the causes of breast cancer.

Women who have difficulty in getting pregnant, sometimes, may ask the doctor to inject female hormone for them. However, if they fail to pay special attention to it, they may contract breast cancer 10 years later though they may have given birth to babies.

What does the female hormone have to do with the bacteria in the intestines? As a matter of fact, the harmful bacteria such as clostridia may produce substances with the similar role of the female hormone. These substances, if absorbed in the body, may possibly cause breast cancer.

The female hormone in the body may originally be discharged together with urine or bile, or discharged after combining with glycine, taurine, etc into compounds. The trouble is that the female hormone is unable to combine with glycine or taurine in the case where women mainly taking the American-European-style diet are stricken with constipation.



**To keep the intestines in a youthful state with bifidobacteria in the overwhelming majority is very necessary for strengthening the human body's immunity against cancers.**

Such being the case, the female hormone containing no other substances moves here and there in the body before it is absorbed. In other words, in the case of taking American-European-style foods, the carcinogenic substance will stay in the

body and never be able to be discharged.

## **SOY OLIGOSACCHARIDE MAY PREVENT CANCERS**

Cancer cells are the harmful cells produced in the human body. To inhibit the cancer cells, it is very important to strengthen the human body's immunity.

It is said that cancer cells may also be produced in the body of healthy people. The reason why healthy people are not liable to cancers lies in their strong immunity. In case of canceration, the lymphatic cells in the body of the healthy people may inhibit the multiplication of cancer cells.

The cancer incidence is relatively high among the aged population. With the increase in age, the bifidobacteria decrease ceaselessly, creating the intestinal environment where the harmful bacteria are in the majority. This physiological change is obviously related with the high incidence of cancers. Therefore, to keep the intestines in a youthful state with bifidobacteria in the overwhelming majority is very necessary for strengthening the human body's immunity against cancers.

I am here to introduce an animal test as regards the bifidobacteria's role of preventing cancers. A group of bacteria-free mice were fed with the compound feeds mixed with three kinds of harmful intestinal bacteria, with the result that 100% of the mice contracted hepatic cancer. The mice were then fed with the compound feeds with bifidobacteria added to, and the cancer incidence dropped down to about 50%.

From this, we may consider that bifidobacteria play a certain role in inhibiting the occurrence of cancers. Therefore, the role of bifidobacteria and soy oligosaccharide as the source of their vitality is worth stressing in respect of cancer prevention. In case you feel, for certain reasons, that the bifidobacteria in the intestines are getting less, bifidobacteria and soy oligosaccharide should be taken simultaneously so as to balance the flora in the intestines.



**Before going on a trip, an immune injection is important, but a rational diet is even more important.**

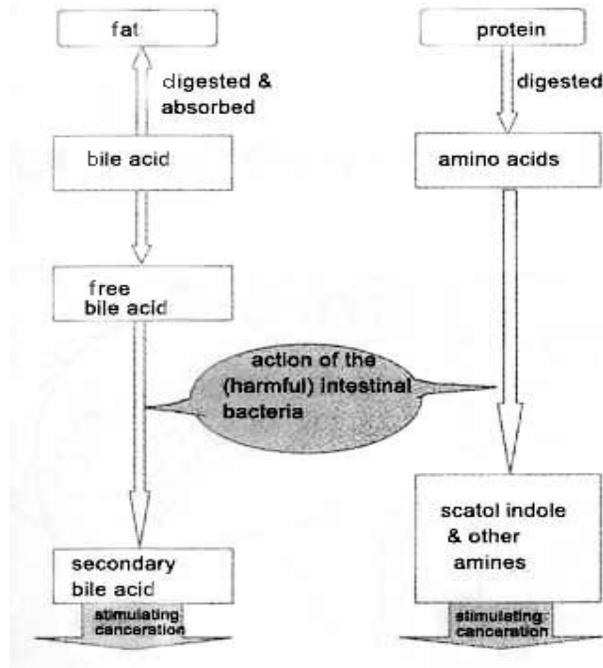
### **REDUCING THE CHOLESTEROL CONTENT**

Whenever cholesterol is mentioned, people are apt to regard it as the prime culprit harmful to the body. In fact, cholesterol is one kind of lipid, an important substance constituting cell membrane, hormone, vitamin D, bile acid, etc. Two thirds of the cholesterol normally needed by the body is composed in the liver, with the balance being supplemented by foods.

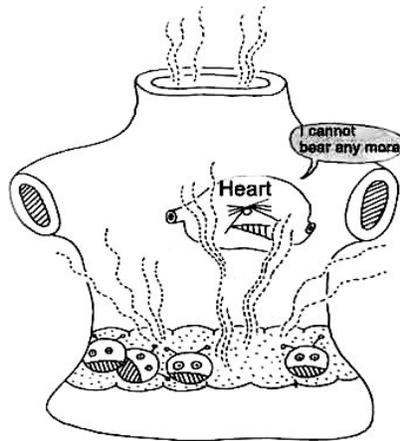


**Lacking bifidobacteria and soy oligosaccharide may seriously worsen the environment inside the intestines.**

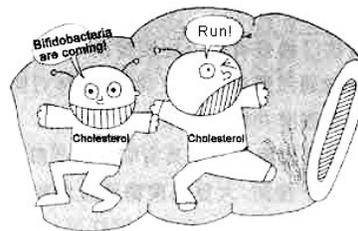
### **Relationship between Intestinal Bacteria and Cancers**



However, with the unceasing American-Europeanizing of our diet nowadays, there is more and more fat in the diet. As a result of this, too much cholesterol is absorbed, which brings about the new problem of a remarkable rise in hypercholesterolemia, arteriosclerosis, etc. Hypercholesterolemia is the cause of myocardial infarction and heart failure.



Hypercholesterolemia is the cause of myocardial infarction and heart failure.



**Bifidobacteria and soy oligosaccharide should be taken simultaneously to reduce the cholesterol content.**

Cholesterol dissolves in blood in the form of the combination with lipoprotein, and is then sent to the various organs of the body. Cholesterol, combining with the high specific gravity lipoprotein, changes into HDL cholesterol, and turns into LDL cholesterol when combining with the low specific gravity lipoprotein.

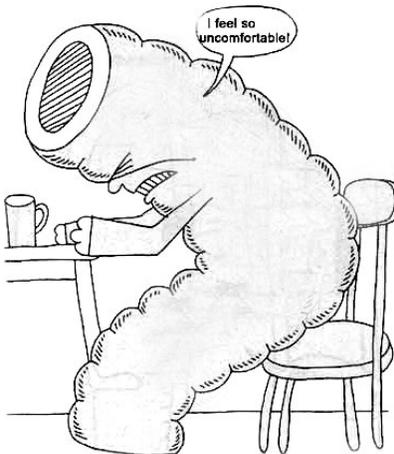
LDL cholesterol, one of the two kinds, invades and adheres to the wall of blood vessels, thus causing arteriosclerosis. On the contrary, HDL cholesterol acquires the role of removing and discharging the LDL cholesterol adhered to the wall of blood vessels.

As shown in the test report by Professor Kizuya Hata of Keio University, fodder containing soy oligosaccharide was fed to a group of white mice naturally stricken with hypertension for eight consecutive weeks, after which the cholesterol in the blood of the white mice was found remarkably dropping. Also found dropping were the neutral lipid and phospholipid in the body.

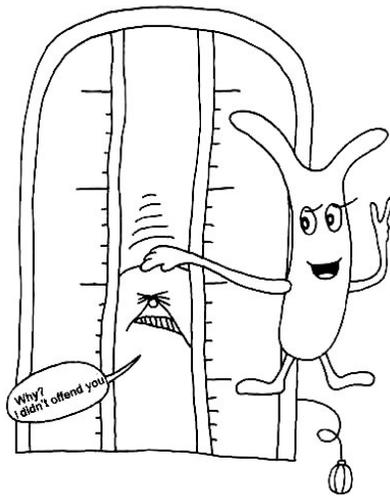
The professor also made a test among 46 hospitalized patients with hyperlipemia. Part of the patients were asked to take 12.4 g of soy oligosaccharide daily while the rest took saccharose. As a result of that, the total amount of cholesterol, and triglyceride, free fatty acid and blood-glucose were all found dropping in the blood of the people taking soy oligosaccharide. Their blood pressure dropped as well. On the contrary, all these indexes were found higher in the case of those taking saccharose.

It has been known that dietary fibers also have the role of reducing cholesterol. Dietary fibers can indeed raise the speed of food passing through the intestines, reduce absorption of cholesterol in the body, and can even absorb cholesterol and discharge it out of the body.

Though soy oligosaccharide itself doesn't have the role of absorbing cholesterol, we may infer as follows: since soy oligosaccharide can raise the speed of food passing through the intestines by accelerating the multiplication of bifidobacteria, it can also bring the same result of reducing cholesterol as mentioned above, can't it?

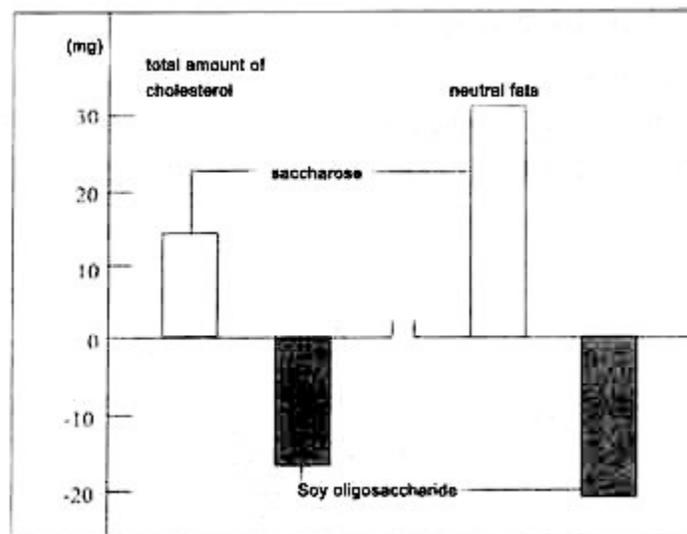


**LdL cholesterol, one of the two kinds, invades and adheres to the wall of the blood vessels, thus causing arteriosclerosis.**



**The total amount of cholesterol, and triglyceride, etc were all found dropping remarkably in the blood of the people taking bifidobacteria and soy oligosaccharide.**

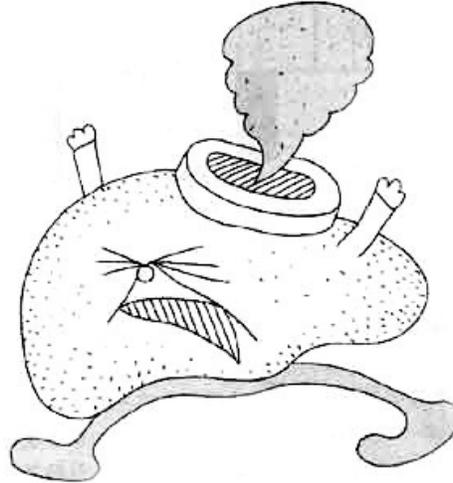
### **The role of soy oligosaccharide in reducing cholesterol**



### **REDUCING BLOOD PRESSURE**

As a result of the force used for bowel movements, even the blood pressure of healthy people may temporarily rise by 20 to 30 mmHg. In case of bad bowel movements, the blood pressure will get even higher as stronger force is needed. It is often heard that someone has a heart attack or encephalorrhagia in the toilet.

This is the misfortune caused by the sharp rise of blood pressure during bowel movements. Besides, in the case of sustained constipation, the intestines would be filled with the harmful gases produced by harmful bacteria. These harmful gases press upward the diaphragm, and sometimes may constrict the heart.



**In the case of sustained constipation, the intestines would be filled with the harmful gases produced by harmful bacteria.**

Keeping bifidobacteria in a dominant position in the intestines and eliminating constipation may not only relieve the body of the direct harm caused by the constipation but may also remove the dangerous factors brought about by the hypertension.

The harmful bacteria may produce harmful gases, and various toxic substances as well, which will be absorbed by the intestinal walls before they enter the blood. Some of the toxic substances can make the blood vessels contract and drive high the blood pressure. There are reports that blood pressure was lowered after the hypertension patients took bifidobacteria. As the causes of instinctive hypertension are so far not clear, we are unable to say with certainty that bifidobacteria have the mechanism of reducing blood pressure. However, what is clear is that bifidobacteria acquire certain roles in normalizing the blood pressure. With the progress of researches, reasons concerning this will finally be found out.

### **PREVENTING HEMORRHOIDS**

A lot of diseases are caused by constipation. It is especially well known that constipation is apt to cause hemorrhoids.

Large quantities of blood vessels meet at the anus, the opening at the end of the alimentary canal. Some of the blood vessels are with no venous valve for making blood return to the liver. Therefore, the blood is easy to stagnate at the anus.

While strength is used for bowel movements, the pressure inside the abdomen will increase, so that the blood stagnation state at the anus may get more serious than usual. In the case of the people with constipation, because of the impediment to bowel movements, the pressure on the anus from the abdomen is much greater than

in the case of normal people, and accordingly, more severe is the state of blood stagnation at the anus. IF the vicious cycle continues, blood clots may deposit in the veins, taking the form of phlebangiomas, that is, blind piles (commonly called hemorrhoids).

Hemorrhoids, at the initial stage, only present the slight symptoms of itch, hemorrhage, etc. If ignored, they may make you feel painful and restless, or cause inflammation around the anus or in the intestine. If it is a serious case, an operation may possibly be needed.

Hemorrhoids can be cured through treatment, though the treatment by medicine or an operation is suited to the case only. So long as the constipation, the cause inducing hemorrhoids, remains uncured, there is the possibility of repeated recurrences.



**The people with constipation have increased. Some hospitals even have to establish the outpatient departments special for constipation patients.**

What is worth noting is that not only the hemorrhoids population has increased recently, but the constipation population, the reserve force of hemorrhoids population, has increased as well. Some hospitals even have to establish the outpatient departments special for constipation patients.

There are also many suffering from constipation among the aged and the long-hospitalized patients. To improve the conditions of constipation, soy oligosaccharide is being used by an increasing number of hospitals. Different from purgatives, which worry us all about their dependence, soy oligosaccharide is safe to the aged and patients with poor resistance to diseases.

### **DETOXIFICATION AND PROTECTING THE LIVER**

Are liver diseases related to the intestines? The answer is affirmative.

People often stress the harm of liquors to the liver, but more often than not overlook the poor conditions of the intestines, the fundamental cause of liver diseases.

Liver is the human body's detoxifying organ. There are a lot of toxic substances in the foods we eat everyday, and the harmful bacteria in the intestines can also produce some toxic substances, which are, together with the nutrients, absorbed by the wall of the intestines and detoxified in the liver. The liver is relatively frail. If there are too many toxins in the body, a heavy burden will be caused to the liver. In case this condition lasts too long, the liver will be overworked and liver disorder may occur, therefore reducing the liver's ability of detoxification. In spite of this, the toxins will continue to be carried in so that the liver can bear no more, which results in serious lesions.

If these harmful substances arrive in the brain, they may cause disorder of consciousness or reduction of memory, and slight trembling of the fingers as well. The sensation of time or place may also be confused, and sometimes you may even fall into lethargic sleep. This is called "hepatic encephalopathy", which is caused by ammonia, one of the harmful substances.



**The harmful intestinal bacteria can produce toxic substances. If there are too many toxins in the body, the liver can no longer bear this, thus resulting in serious lesions.**

This harmful substance is turned out while protein is decomposed in the intestines by the bacteria other than bifidobacteria. Such being the case, while the hepatic encephalopathy is being treated, the protein intake is normally controlled within 30 grams daily. Meanwhile, bifidobacteria and soy oligosaccharide are administered to the patients with hepatic encephalopathy so as to resume the balance of florae in the intestines and raise the effect of the treatment.

To keep the liver from falling into the state of being overworked, it is necessary to adjust the intestinal florae to the state with bifidobacteria in the majority. In this case, the putridity in the intestines can be checked, and the production of toxic substances in large quantities avoided accordingly.

As indicated in an investigation, patients with cirrhosis (one kind of hepatic disorders) were asked to take daily 6 billion B. breve (one kind of bifidobacteria) and 30 grams of soy oligosaccharide blended in drinks. After that, the toxic substances in their feces decreased whereas the bifidobacteria were found on the remarkable increase.

This shows that taking bifidobacteria and soy oligosaccharide may help clean the intestines internally, and improve the state of intestinal florae to make bifidobacteria occupy the dominant position.

### **REDUCING THE SIDE EFFECTS OF ANTIBIOTICS**

When we are in good health, the harmful bacteria living in our intestines will not bring about harm to us. In case, however, we are overtired or sick with a poor constitution and lower resistance to diseases, the harmful bacteria may sharply increase, and produce toxic substances.

This is called spontaneous infection (endogenous infection) or inert bacterial infection.

Taking antibiotics over a long period of time to cure diseases is the major cause of the disorder of florae in the intestines. The beneficial bacteria decrease as a result of the action of the antibiotics whilst the inferior bacteria having been inhibited turn into the major bacteria.

### **Changes in Intestinal Florae while Taking Antibiotics**

| florae        | bifidobacterium | bacteroides | colibacillus | enterococcus | lactobacillus | streptococcus |
|---------------|-----------------|-------------|--------------|--------------|---------------|---------------|
| antibio       |                 |             |              |              |               |               |
| penicillin    | ↓               | ↓           | →            | →            | ↓             | ↓ ↓ ↓         |
| ampicillin    | ↓ ↓ ↓           | ↓ ↓ ↓       | ↓ ↓ ↓        | ↓ ↓ ↓        | ↓ ↓ ↓         | ↓ ↓ ↓ ↓       |
| tetracycline  | ↓ ↓             | ↓ ↓ ↓       | ↑            | ↑ ↑          | ↑             | ↓ ↓ ↓         |
| chloromycetin | ↓ ↓             | ↓ ↓ ↓       | ↓ →          | ↓ ↓          | ↓             | ↓ ↓ ↓         |
| erythromycin  | ↓ ↓             | ↓ ↓ ↓       | ↓ →          | →            | →             | →             |
| gentamycin    | }               | ↓           | ↓ ↓ ↓ ↓      | ↓ ↓ ↓        | ↓ ↓ ↓         | ↓             |
| neomycin      |                 |             |              |              |               |               |
| kanamycin     |                 |             |              |              |               |               |
| polymyxin     | →               | ↓           | ↓ ↓ ↓ ↓      | ↓ ↓ ↓        | ↓ ↓ ↓         | ↓             |
| lincomycin    | ↓ ↓ ↓ ↓         | ↓           |              | ↓            |               |               |
| clindamycin   | ↓ ↓             | ↓ ↓ ↓       | ↑ ↑          | ↑ ↑          |               |               |

↓ slight decrease      ↑ ↑ increase  
 ↑ slight increase      ↓ ↓ ↓ disappearance  
 ↓ ↓ decrease          → no change

If the bacteria on the rapid increase include pathogenic or toxic bacteria, new diseases may be brought about.

Diarrhea caused by the side effects of antibiotics is one of them.

Antibiotics have numerous roles in treating bacterial infections. However, if they are taken for a long time, many diseases as mentioned above may occur. To avoid these diseases, more and more patients are now administered antibiotics together with bifidobacteria when they have to take antibiotics.

### PREVENTING FOOD POISONINGS

Even in the society of today with very nice sanitary conditions, there are still some reports on food poisonings every year. If those unreported light food poisoning cases are also taken into consideration, it may be inferred that quite a number of poisoning cases occur each year.

Food poisonings may be divided as follows: the bacterial food poisonings caused by bacteria, the natural food poisonings by poisonous mushrooms, globefish, etc, the chemical food poisonings by pesticides, and so on. But most of the food poisonings are bacterial food poisonings, accounting for about 90% of the total.

These bacterial food poisonings are further divided into two types: the infectious and the toxic. The food poisonings caused by salmonella, pathogenic colibacilli, vibrios enteritis and so on belong to the infectious type, while those caused by the toxins produced during the multiplication of staphylococci, botulobacilli, etc in foods are called the toxic type. The infectious food poisonings normally take place 12 to 30 minutes after the food is taken, whereas the toxic food poisonings, only a short period of 1 to 6 minutes after the food is taken.

There are originally certain resistant mechanisms in our body. For instance, the gastric juice and bile acid acquire a very strong role in killing bacteria, with the enteromycoderma having the ability of preventing bacteria from adhering to the wall of the intestines. However, when we are overtired or feel unwell, the function of the resistant mechanisms will be weakened.

Taking the same food, some may suffer from food poisonings whilst others not. This is because the resistant ability varies with people. The reason for this variation lies in the fact that people have different constitutions and different florae in their intestines. If bifidobacteria and other beneficial bacteria are kept in the dominant position among the florae in the intestines, the body's ability of resisting the invasion of bacteria and discharging them out of the body will remain strong.

To prevent food poisonings, the sources of infection should of course be eliminated first. But the reality is that food poisoning cases may still happen in spite of our full attention. Such being the case, in order to raise the ability of resistance against bacterial invasion, it is very important to keep the beneficial bacteria in the majority among the florae in the intestines.