

Hyperlipidemia

(高血脂症英文)

◆What is Hyperlipidemia?

Hyperlipidemia is an elevation of cholesterol and triglycerides in the bloodstream. Abnormal blood lipid level (whether hypercholesterolemia or hypertriglyceridemia or both combined) is the main cause of atherosclerosis which will increase the risk of coronary heart disease. Blood lipids include cholesterol, triglycerides and phospholipids. These blood lipids are fat soluble which will need blood plasma to form lipoproteins to be transported to each organ and tissue.

◆What is lipoprotein?

Lipoprotein includes at least Very Low Density Lipoprotein, Intermediate Low Density Lipoprotein, Low Density Lipoprotein and High Density Lipoprotein; each type of lipoprotein contains different percentages of cholesterol, triglycerides, phospholipids and protein.

1. Low Density Lipoprotein

60-70% of the cholesterol in the blood is delivered by LDLs produced by the liver and carry cholesterol and other lipids (fats) from the liver to different areas of the body, like muscles, tissues, organs, and the heart. LDLs- a risk factor of coronary heart disease and cardio diseases caused by hypercholesterolemia due too high level of cholesterols is sometimes called "bad cholesterol".

2. Very Low Density Lipoprotein

The main substance is triglycerides and is made by the liver. If consuming a great quantity of cholesterol or sugar, the density of lipoprotein compound of VLDL will increase.

3. High Density Lipoprotein

20-30% of the cholesterol in the blood is delivered by the HDL produced by the liver to carry cholesterol and other lipids (fats) from tissues and organs back to the liver for recycling or degradation. HDL – The higher the cholesterol, the risk of coronary heart disease decreases, therefore it is considered the "good" cholesterol.

◆Hypercholesterolemia

The total cholesterol concentration or LDL in the blood – Hypercholesterolemia occurs when the concentration of cholesterol higher than normal value. Due to the high relevance of cardiovascular disease, the LDL-C must be controlled first. If the value of triglycerides is higher than 500 mg/dl, then it must be controlled first for the risk of acute pancreatitis.

【Concentration of adult cholesterol and triglycerides in the blood】

	(Ideal concentration)	(Close to high risk concentration)	(High risk concentration)
Cholesterol in total (Non-fasting)	<200mg/dl	200-239mg/dl	≥240mg/dl
LDL (Fasting for 12 hours)	<130mg/dl	130-159mg/dl	≥160mg/dl
Triglycerides (Fasting for 12 hours)	<200mg/dl	200-500mg/dl	>500mg/dl

The LDL cholesterol of cardiovascular disease or Diabetes mellitus patients is suggested under 100mg/dl.

Please sign if you have understood the above information about Hyperlipidemia.

(Patient or family's signature) _____ (date) _____



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◆ Hypercholesterolemia Diet

1. Control lipids intake; avoid fried foods or greasy foods: skin of pork, chicken, duck or fish.
2. When stir-frying foods, use non-saturated high fatty acid unit (example: peanut oil, vegetable seeds oil, olive oil); avoid using saturated high fatty acid (for example: pork fat, butter, lard). Recommended ways of cooking are: steaming, boiling, dressing cold, baking, grilling, and stewing.
3. Avoid eating high cholesterol foods; for example: internal organs (brain, liver, and kidney), ovary of a crab, shrimp eggs, fish eggs. If your cholesterol is high, do not eat more than 2-3 egg yolks each week.
4. Choose foods which are rich in fibers, such as: raw beans, vegetables, fruits, whole grains.
5. Avoid alcohol.
6. Healthy lifestyle; for example: quit smoking, exercise, relieve stress.

◆ Hypertriglyceridemia

The concentration of triglycerides will vary depending on the types of lipids in the foods.

When fasting for 12 hours, if the concentration of triglycerides is higher than normal range, this will be called hypertriglyceridemia. This disease will accompany high risk factors of coronary heart disease (example: obesity, excessive alcohol intake).

◆ Hypertriglyceridemia Diet

1. A healthy weight control can reduce triglycerides in the blood.
2. Choose foods rich in sugar; such as: grains of all kinds, rooting vegetables and avoid eating refined sweet foods, drinks which contains fructose or cane sugar, all kinds of sweets and desserts, caned fruits and sweetened products.
3. Eat types of fishes that contains 3 fatty acid; such as pacific saury, salmon, Saba Kesuri Bushi, eels (Conger & Garden eels), Silvery pomfret, oyster.
4. Avoid alcohol.
5. Others please refer to Hypertriglyceridemia Diet.

【Concentration of adult cholesterol and triglycerides in the blood】

Adult cholesterol (mmol/L)	Adult cholesterol (mg/dL)	Adult triglycerides (mmol/L)	Adult triglycerides (mg/dL)
≥ 6.5	≥ 250	> 2.3	> 200
5.2 - 6.4	200 - 249	1.7 - 2.2	150 - 199
< 5.2	< 200	< 1.7	< 150

