ON EVERYONE'S
LIPIDS

Photo : Dreamstime

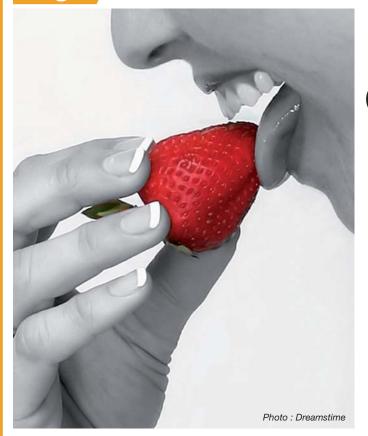**Dr Daniel Wai Chun Hang, consultant, Department of Endocrinology, Singapore General Hospital, gives the lowdown on lipids and ways to prevent heart disease and stroke.**

1. What are lipids?

Lipids refer mainly to two things in our blood: cholesterol and triglycerides.

A "lipid test" is what a doctor orders when he checks your "cholesterol". Cholesterol is a wax-like substance needed to build cells (the smallest unit that makes up our body), and to make things such as some hormones and vitamin D.

Triglycerides is the fat in our blood. It is naturally formed when we digest food containing fat, and also when we need to send the extra energy to be deposited in fat tissues all over our body.

2. Is having high cholesterol level a problem in Singapore?

Yes. According to the Ministry of Health's National Health Survey 2004, 18% of Singaporeans have a high cholesterol level. Having a high cholesterol level increases the chance of dying from heart attacks and strokes, which together account for 28% of all deaths in Singapore.

3. Are there any symptoms of high cholesterol?

No. Patients only develop symptoms when they develop the complications, namely heart disease and strokes.

4. How do we check our lipid profile?

It is simple. After an overnight fast, blood is taken in the morning.

5. Are there good and bad cholesterol?

Yes. Cholesterol is transported by different particles, called lipoproteins, in the body. Cholesterol transported by "low density lipoproteins (LDL)" is called LDL-cholesterol, while cholesterol transported by "high density lipoproteins (HDL)" is called HDL-cholesterol. The higher the LDL-cholesterol level in the blood, the higher the chance a person will die from heart attacks and strokes. Human beings develop atherosclerosis, or hardened narrowing of blood vessels, because LDL particles get oxidized and their cholesterol is deposited on the blood vessel walls. Fortunately, decreasing the LDL-cholesterol level prevent heart disease and strokes. LDL-cholesterol is therefore referred to as "bad" cholesterol.

On the other hand, the opposite is true for HDL-cholesterol. A high level lowers the chance of dying from heart attacks and strokes. HDL particles remove cholesterol from the walls of blood vessels and prevent oxidation of LDL particles. HDL-cholesterol is referred to as "good" cholesterol.

6. Are triglycerides good?

A moderately high level of triglycerides also increases the chance of dying from heart attacks and strokes. People with extremely high levels may, however, develop something else: pancreatitis, or inflammation of the pancreas. Pancreatitis causes severe stomach pain and is potentially life-threatening.

7. What determines our lipids?

Our genes, our age and actions determine our lipids.

Photo : Daniel Gilbey

Cholesterol increases with age. The amount of cholesterol and fat we consume affects our cholesterol level. Regular exercise increases HDL-cholesterol. Alcohol drinking causes mixed results: it increases good cholesterol level together with the fat in the blood. Being overweight increases our triglycerides and decreases our HDL-cholesterol.

8. Is it important to have a favourable cholesterol profile?

Yes. That means a high HDL-cholesterol and lower LDL-cholesterol and triglyceride levels. However, we must remember that our ultimate aim is to prevent heart diseases and stroke, and managing our cholesterol is just one aspect of it.

9. How should we do to avoid heart attacks and strokes?

Regular exercise, stop smoking, maintaining a normal weight, having a diet of fresh fruits and vegetables, eating a lower fat diet (see question 13) and eating more fish had all been shown to prevent heart attacks and strokes. For patients with hypertension and diabetes, it is important to have them under good control. It is also important to learn how to handle stress at work and at home. Last but not least, it is important to have a favourable cholesterol profile.

10. What are the medications used to treat lipid problems?

Most commonly statins such as simvastatin are prescribed. They lower LDL-cholesterol level and prevent heart diseases and strokes. Fibrates such as fenofibrate decrease triglycerides and increase HDL-cholesterol. Other medications include nicotinic acid, ezetimibe and high dosages of fish oil.

11. How long should one take lipid medication?

In general, patients are advised to take them long term as the improvement from the medication remains only as long as the medication is taken.

12. Are there any lipid problems peculiar to patients with diabetes?

Yes. Patients with diabetes tend to have a lower HDL-cholesterol and higher triglyceride levels. They also have a high chance of developing heart disease and stroke. Therefore, doctors treat patients with diabetes aggressively. This means that patients with diabetes are prescribed lipid medication even if their bad cholesterol level is only mildly elevated.

13. What are the different kinds of fat?

There are three kinds of fat: unsaturated fat, saturated fat and trans fat.

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Unsaturated fat is the healthy fat: it prevents heart diseases and stroke. It is found in plant oil like canola oil, olive oil, sunflower oil, corn oil and peanut oil, as well as in fish oil.

Saturated fat increases all the lipids in our body. It is found in animal meat, diary products such as butter and cheese and in plant products like coconut oil and palm oil.

Trans fat is the worst fat. It increases LDL-cholesterol and lowers HDL-cholesterol, and it is not required by our body. It occurs naturally in small amounts in animal products, but is widely used to make margarine, pastries, deep fried food, and snacks like cookies and chips.

14. So what can we eat?

When eating outside, yong tau fu (non-fried dishes), fish ball noodles, and sliced fish noodles are fine. Always ask for more vegetables, less oil and gravy.

Avoid rice cooked in oil such as nasi lemak, but ask for white rice instead. In restaurants, ask for the gravy and mayonnaise to be placed at the side and use them sparingly. Try your best to avoid fast food.

When eating at home, avoid deep frying. Try steaming, stir frying, baking or braising. Use unsaturated cooking oil for cooking. Have fish twice a week. Have fresh fruits and vegetables every day. Eat bread and rice with high fibre content such as brown bread and brown rice.