



Understanding heart disease - “No apparent risk factors”

Behaviours and responses

We are all different in various ways. Because of our genetic makeup, we are predetermined from the time of conception to interact with our environment within a somewhat limited range of responses. Our responses are our behaviours. These behaviours lead to changes within ourselves and our body reacts to those internal changes. Although genetically controlled, we can influence our responses through more appropriate behaviours particular to ourselves.

Food intake

You will have noted that some people can eat large amounts of food and never become fat. Others are the opposite. Fat people apparently absorb the foods better, store them more (as fat), and burn up less calories, through being less active, less demonstrative, less fidgety, less excitable. Maybe they will survive best when a famine comes! We are fortunate to live in a place and time where famine is not an issue. This is one reason why we are all becoming bigger and fatter than our ancestors.

Fat and cholesterol

Some people can eat large quantities of saturated fats and remain with a low cholesterol level (the metabolic qualities of a wolf). Others seem able to produce a high cholesterol level from even a small fat intake (the metabolism of a rabbit). Most of us can manage a moderate amount of fat in the diet. We

can eat almost anything without adverse affects (we have metabolisms similar to pigs).

Salt intake

Some people respond to taking salt by having a rise in their blood pressure. Many people do not respond that way and can handle an excessive salt intake by losing the salt in the urine and sweat without a rise in blood pressure.

Smoking

Some people appear able to smoke through life without developing diseased arteries before they die of lung cancer or emphysema. Their arteries are “insensitive”. Some smokers die of heart attack at an early age without widespread changes in their arteries and long before they’ve developed bronchitis and lung changes which lead to emphysema and cancer. Their arteries are “sensitive” to the chemicals and/or carbon monoxide from the burned tobacco.

The arteries

The arteries, their linings and the muscles in their walls respond to any stimulus in a partly predetermined way common to all of us. However, as demonstrated in the smoker’s example, sensitivity of response is variable.

“Acceptable” cholesterol levels have been determined from studies of populations, that is, large groups of people. A normal or “acceptable” cholesterol level of 5.5 millimol per litre (the average for a 35 year old man or a 45 year old woman) may produce no adverse response in the arteries of many people. For some however it is far too high. For many people it is high enough to lead to cholesterol being deposited in the artery wall, leading to heart attack and other vascular diseases.

For some, even 4.5 millimol per litre is too high. Maybe it would be better (safer) if we all had cholesterol levels of 3.5 millimol per litre, a level at which, if maintained, it seems one cannot develop cardiovascular disease. The lower the cholesterol the better it is to a point (well short of starvation).

The same applies to blood pressure. An "acceptable" blood pressure of 130 over 85 millimetres Mercury means that we would not treat that blood pressure with drugs. We would advise the patient, however, to take more exercise, to lower weight and to reduce fat and salt intake. It now seems that the lower the blood pressure the better (to a point well short of faintness).

It seems that the ideal state is one of leanness (but not thinness), of low blood pressure (without symptoms), of low cholesterol (without starvation), of physical activity through life (with or without athleticism as desired) and without that cigarette (which may be the one that leads to the artery blocking).

We are usually unable to enjoy a "perfect" lifestyle. The responses of the artery walls are related to chemical responses and genetic factors which drive those responses. Thus current research is being directed to understanding why some people are more likely to have their blood platelets clump together, why some are less likely to dissolve small blood clots as they may form, why blood vessel linings respond unfavourably in some people and how these potentially damaging responses can be modified.

What about nutrients?

There is increasing evidence that certain nutrients in traditional diets, in specific foods or groups of foods with antioxidant properties, may protect the walls of arteries from damage. Some foods may prevent or

stabilise clot formation, thereby preventing heart attack. More of that in a later newsletter!

What about stress?

We are all concerned that contemporary life stresses may be harmful. While life is supposed to be increasingly stressful, life expectancy is increasing. Maybe stress is harmful for some. If perception of stress leads to more eating, sitting, smoking, brooding and depressed mood - that stress may well be harmful. If it leads to more activity, walking, gardening, pacing, loss of appetite, even fidgeting, that may be beneficial for your artery walls, not necessarily beneficial for you.

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