

Fatty fish protects against prostate cancer

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Men who eat a lot of fatty fish run a lower risk of prostate cancer, concludes a new research paper from Karolinska Institutet (Sweden). The effect is likely to be attributable to the abundance of omega-3 fatty acids, although there is also a hereditary factor.

In Sweden, prostate cancer is by far the most common form of cancer; in countries such as China and Japan, it is much rarer. Just why the risk of developing the disease is country-dependent is hard to know for certain, but one reason could be differences in dietary habits. Substances that have often been identified as important in this context are EPA and DHA, two omega-3 fatty acids, which are found in abundance in fatty fish such as salmon, herring and mackerel. In cell experiments, scientists have seen that omega-3 fatty acids can prevent the development of cancer, but the exact value of having an omega-3-rich diet remains an open question.

To find out whether omega-3 fatty acids in food affect the chances of developing cancer, scientists asked 1,500 Swedish men with diagnosed prostate cancer about their eating habits and then compared the answers with a healthy control group. The results strongly support the hypothesis of the healthiness of omega-3 fatty acids. Men who eat salmon more than once a week run a 43 per cent less chance of developing prostate cancer than men who never eat salmon.

The scientists also analysed blood tests to find any genetic factors behind prostate cancer. Their results show that men who carried a special variant of the COX-2 gene were the only ones to benefit from the

protective properties of fatty fish. The group of men who carried this gene variant and who often ate salmon had a 72 per cent lower chance than men who never ate fatty fish.

The researchers' explanation for this is that the gene controls the outcome when omega-3 and omega-6 fatty acids, which are found in vegetable oils, compete for inclusion in hormone-like substances in the body known as prostaglandins. Prostaglandins derived from omega-3 fatty acids are anti-inflammatory and might well counteract the development of cancer, while prostaglandins derived from omega-6 fatty acids have the opposite effect.

Maria Hedelin, one of the scientists conducting the study, thinks that there are good reasons for eating fatty fish, despite the fact that 40 per cent of men actually lack the “protective” variant of the gene.

“This study shows that there is an interaction between dietary factors and our genes, but it’s always hard to say what role the genes play,” she says. “omega-3 fatty acids can still be good for men who don’t carry this gene variant in completely different ways.”

Source: Karolinska Institutet

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