

Study: Fish Oil Stops Skin, Mouth Cancers

Need another reason to add fish to your dinner plate? New research has found omega-3 fatty acids, contained in oily fish such as salmon and trout, combat skin and mouth cancers—efficiently blocking tumor growth and destroying cancerous tissues.

The findings, by from scientists at the Queen Mary, University of London, are based on laboratory tests that showed omega-3s cause cell death in malignant and precancerous cells at doses that don't damage normal, healthy tissues.

The research, published online in the journal *Carcinogenesis*, suggests omega-3s have the potential to be used in both the treatment and prevention of skin and mouth cancer. Omega-3 polyunsaturated fatty acids cannot be made by humans in large quantities and must be acquired from diet or supplements.

“It may be that those at an increased risk of such cancers—or their recurrence—could benefit from increased omega-3 fatty acids,” said Zacharoula Nikolakopoulou, M.D., who carried out the research while studying at Queen Mary. “Moreover, as the skin and oral cancers are often easily accessible, there is the potential to deliver targeted doses locally via aerosols or gels. However further research is needed to define the appropriate therapeutic doses.”

The new study involved a particular type of cancer called squamous-cell carcinoma. Squamous cells are the main part of the skin, and also occur in the mouth, digestive tract, lungs, and other areas of the body. Oral squamous cell carcinoma is the sixth most common cancer worldwide and one of the difficult and expensive to treat.

In the experiments, the scientists grew cell cultures in the

lab and then treated them with fatty acids. The cell lines included both cancerous oral and skin cells, along with pre-malignant cells and normal skin and oral cells.

“We found that the omega-3 fatty acid selectively inhibited the growth of the malignant and pre-malignant cells at doses which did not affect the normal cells,” said Kenneth Parkinson, head of the Oral Cancer Research Group at Queen Mary’s Institute of Dentistry.

“Surprisingly, we discovered this was partly due to an over-stimulation of a key growth factor [epidermal growth factor] which triggered cell death. This is a novel mechanism of action of these fatty acids.

While previous studies have linked omega-3s with the prevention of some cancers, there has been very little work done on oral cancers or normal cells.