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Diet and cancer: Can superfoods or dietary supplements help?

The recent press has highlighted that our lifetime chance of developing cancer is almost 1 in 2. The World Cancer Research Fund and the American Institute for Cancer Research suggest that most cancer is preventable, through a combination of smoking/tobacco avoidance, appropriate diet, regular physical activity and maintaining a healthy body weight. We know there is a strong link between diet and cancer, although it is very complex. Expert consensus suggests 9-40% of cancers are directly linked to diet and this risk is even greater if you are obese. Eating a healthy balanced diet that is high in fibre, fruit and vegetables and low in red and processed meat and salt can reduce cancer risk. 'Superfoods' with anti-cancer properties have hit the headlines and while there may be some evidence that the chemicals in these foods have positive health benefits, most of the studies have been conducted in a laboratory with limited large scale studies. The World Health Organization (WHO) the EPIC study, involving more than half a million people in 10 European countries followed for almost 15 years. The study found strong evidence that higher levels of vitamin D are associated with a reduced risk of colorectal cancer and better survival outcomes; dietary fibre protects against colon cancer; high intake of fat predisposes to breast cancer; diets high in flavonoids can reduce the risk of primary liver cancer and bladder cancer; and many more similar conclusions related to vitamin levels, diet and cancer. Other smaller studies point to the potential anti-cancer properties of a variety of diet derived chemicals including lycopene (from tomatoes), curcumin (from turmeric) and catechins (from green tea). Lycopene is a powerful antioxidant that has been linked to a reduced risk of prostate cancer, breast cancer and liver disease/cancer. Studies suggest that curcumin inhibits many of mechanisms responsible for the development of cancer and may reduce the risk of a range of different cancers including those of the breast, bowel, pancreas and liver. There are also for example clinical trials of curcumin being added to chemotherapy in the treatment of advanced bowel cancer as previous experimental studies had shown benefit of the combination over chemotherapy alone. Green tea contains high levels of catechins, which have been shown in the laboratory to prevent the activation of oncogenic pathways and block the growth of tumour cells. Consumption of green tea has been linked with a reduction in the risk of bowel, prostate and pancreatic cancers. However not all vitamins are good for you. For example selenium which may be good for pancreatic conditions can be bad for you in combination with vitamin E if you have advanced prostate cancer. People who understand the importance of good nutrition on reducing their cancer risk often seek to augment their diets by eating specific foods or taking vitamins or supplements. However if going down the route of supplementation then the appropriate dosage and bioavailability are just two of the key factors. The message that most cancer is preventable has not as yet stimulated a population reaction or political agenda.

Biography

Martyn Caplin is a Professor of Gastroenterology & GI Neuroendocrinology at the Royal Free Hospital and University College London. He has published over 150 peer reviewed papers, written multiple book chapters and co-authored two books. He regularly lectures both nationally and internationally. From 2006-2012, he was the Clinical Lead for "NHS Evidence" for Gastroenterology and Liver diseases. He was a Member of the National Cancer Research Institute (NCRI) upper-G.I. Cancer Committee 2006-2014. He is an international expert in Neuroendocrine Tumours and is the Chair of the European Neuroendocrine Tumor Society. He has received a Lifetime Achievement Award from the UK & Ireland Neuroendocrine Tumour Society in recognition of his Clinical Leadership and Research in the field of NETs.

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