

## The beneficial effect of Mediterranean Diet on Colon-rectal Cancer

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Letter related to “Schulpen M, Peeters PH, van den Brandt PA. Mediterranean diet adherence and risk of pancreatic cancer: A pooled analysis of two Dutch cohorts. *Int J Cancer*. 2018 Sep 19. doi: 10.1002/ijc.31872. [Epub ahead of print]”

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Dear Editor,

We have read with great interest the paper “Mediterranean diet adherence and risk of pancreatic cancer: A pooled analysis of two Dutch cohorts.” by Schulp M and coworkers [1] and we found their conclusion of importance with a view to clinical prevention. They examined the association between Mediterranean Diet (MedD) adherence and pancreatic cancer incidence by pooling data from the Netherlands Cohort Study (NLCS, 120,852 subjects) and the Dutch cohort of the European Prospective Investigation into Cancer and Nutrition (EPIC-NL 40,011 subjects).

MedD adherence was assessed using alternate and modified Mediterranean diet scores including and excluding alcohol. MedD adherence was not significantly associated with pancreatic cancer risk in pooled and study specific analyses, regardless of sex and MedD score. Authors concluded that MedD adherence was not associated with pancreatic cancer risk in a pooled analysis of two Dutch cohorts.

With reference to the findings reported in the paper, we would like to make the following contribution to the discussion. In a recent paper we analysed 3 components of the Mediterranean Diet that seems to be associated with reduction of Colon Cancer [2]. We analysed the effects of olive oil (polyphenols), red grapes (resveratrol), and tomatoes (lycopene). Specifically, the consumption of olive oil exerts a protective effect in reducing risk for CRC many other types of cancer, including prostatic and breast. Olive oil may exert its protective effect, influencing polyamine metabolism in cells leading to a reduction in cancerogenesis progression. [3]

The Mediterranean Diet is characterized by high intake of antioxidants and polyphenols.

[4,5] It is well known that these components exert many positive effects on cardiovascular system and prevent the development of atherosclerosis both in men and women [4,5].

Schulpen M and coworkers observed no association between MedD adherence and pancreatic cancer in both women and men. It is well known that there is a sex differences in oxidative stress and inflammation. [6,7,8] Oxidative stress and inflammation play a crucial role in the pathogenesis of atherosclerosis vascular inflammation leading to infarction and ischemia. Oxidative stress seems to be higher in male than female rats, being that the levels of SOD, GPx and lipid peroxidation are lower and higher in males versus females, respectively. [6] In humans, the biomarkers of oxidative stress are higher in young men than in women of the same age, although this is not a univocal result.

Resveratrol has many pleiotropic pharmacologic properties. It promotes protection against damage from reactive oxygen species and from inflammation, resulting in cardiovascular protective benefits and, certainly, anticancer activities. In our review of the literature we concluded that the beneficial effects of Mediterranean Diet in patients with colon cancer belong to the synergistic effects of several components.

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