News in Brief

DIETARY EFFECTS OF A PROTEIN KETOGENIC DIET RICH IN OLIVE OIL, SALAD, FISH AND RED WINE

A prospective study examined the dietary effects of a protein ketogenic diet on losing weight under free-living conditions. The study was carried out over 12 weeks to demonstrate the changes in body weight, blood pressure, lipid profile and glucose that might occur after its administration in healthy obese subjects. This diet was called "Spanish Ketogenic Mediterranean Diet" (SKMD) due to the incorporation of virgin olive oil as the principal source of fat, moderate red wine intake, green vegetables and salads as the main source of carbohydrates, and fish as the main source of proteins.

Ketogenic diets are regarded as an effective healthy way of losing weight since they promote a non-atherogenic lipid profile, lower blood pressure and decrease resistance to insulin with an improvement in blood levels of glucose and insulin.

The benefits of olive oil, fish and red wine are essential in a ketogenic diet. Olive oil improves the major risk factors for cardiovascular disease, such as the lipoprotein profile, blood pressure, glucose metabolism and anti-thrombotic profile. The monosaturated fatty acids (MUFA) in olive oil have demonstrated antioxidant, anti-inflammatory and hypolipidemic properties, and a MUFA-rich diet prevents central fat redistribution and the postprandial decrease in peripheral adiponectin gene expression and insulin resistance induced by a carbohydrate-rich diet in insulin-resistant subjects.

Fish have active constituents of two long-chain Omega-3 polyunsaturated fatty acids (n-3 PUFA), eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), and high omega-3 consumption increases insulin sensitivity and reduces inflammatory markers.

The combination of ethanol and phenolic compounds in red wine is thought to be responsible for the apparent protective cardiovascular effect, showing olive oil and red wine antioxidant polyphenols antiatherogenic properties. Moreover, combined consumption of wine and olive oil provided beneficial postprandial effects on haemodynamics.

The study was carried out in 31 obese subjects with the inclusion criteria whose body mass index and age was 36.46 ± 2.22 and 38.48 ± 2.27, respectively. Subjects were selected with the cooperation of a database medical weight loss clinic.

There was an extremely significant ($p < 0.0001$) reduction in body weight (108.62 kg → 94.48 kg), BMI (36.46 kg/m2 → 31.76 kg), SBP (125.71 mmHg → 109.05 mmHg), DBP (84.52 mmHg → 75.24 mmHg), total cholesterol (208.24 mg/dl → 186.62 mg/dl) and glucose (109.81 mg/dl → 93.33 mg/dl). There was a significant ($p = 0.0167$) reduction in LDLc (114.52 mg/dlm → 105.95 mg/dl) and an extremely significant increase in HDLc (50.10 mg/dl → 54.57 mg/dl).

Results confirm that the SKMD is an effective therapy for obesity without caloric restriction. This might be due to the fact that there is a synergic effect between the high protein ketogenic nature of the diet and its richness in MUFA and PUFA.

Some limitations include small sample size, the absence of a random population study as participants were chosen based on eligibility and their eligibility was related with their compliance to the diet. Weight loss may be related with improvement in all parameters that are studied and calorie intake before and after the study were not examined. Also, the study had no control groups to consider the interaction between the components of the SKMD. The authors caution that there is no way to say if the healthy results are due to the ketogenic nature of the diet, the virgin olive oil, the red wine, the higher fish intake, the higher salad intake or a synergic effect between these components.

Source: Pérez-Guisado J et al. Spanish Ketogenic Mediterranean diet: a healthy cardiovascular diet for weight loss. Nutrition Journal: DOI:10.1186/1475-2891-7-30

CARDIOVASCULAR DISEASE AND CANCER WITH ADVANCED AGE IN MEN

The influence of increasing age on the incidence and remaining lifetime risk of cardiovascular disease and cancer in a cohort of older men was investigated in a prospective cohort study. Age is perhaps the most powerful risk factor for cardiovascular disease and cancer, both of which increase exponentially between ages 40 and 80. However, there is some evidence that risk may decline after age 80.

The Physicians' Health Study is a completed randomised trial of aspirin (325 mg every other

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day) and carotene (50 mg on alternate days) for the primary prevention of cardiovascular disease and cancer among 22 071 male doctors in the United States. At study entry in 1982, participants were aged between 40 and 84 and had no history of cardiovascular disease, cancer (with the exception of non-melanoma skin cancer), or other serious illnesses. Participants were sent follow-up questionnaires asking about study outcomes and other medical information twice in the first year and yearly thereafter. The current study used follow-up information up to 30 March 2007. Non-fatal cases of cancer and cardiovascular diseases were self reported by participants on follow-up questionnaires, and fatal cases were reported by family members or next of kin.

After 23 years of follow-up (478 692 person years), 76.5% of the cohort was still alive. Overall, 32 142 person years had accrued in men aged 80-89 and 3312 person years in those aged 90-99. During follow-up, 3252 cases of major cardiovascular disease and 5400 incident cancers were confirmed. The incidence of major cardiovascular disease continued to rise through the 10th decade, with a rate of 3110 per 100 000 person years. The incidence of cardiovascular disease in a cohort of US male doctors increased to age 100 whereas that of overall cancer decreased after age 89.

The age specific incidence of overall cancer increased steadily from 160 per 100 000 person years in those aged 40-49 to 2555 per 100 000 person years in those aged 80-89. It then declined to 2264 per 100 000 person years in those aged 90-99. The most common cancers were prostate (47.2%), colorectal (10.3%), lymphoma (6.6%), lung (6.6%), and melanoma (5.7%). The decline in cancer incidence was largely driven by a decrease in screening related cancers, whereas cardiovascular disease after age 80 was most commonly diagnosed at death.

The cancer rate among ever smokers peaked in those aged 80-89, at 2883 per 100 000 person years, and then declined, whereas the rate among never smokers peaked at 2205 per 100 000 person years in the ninth decade and then remained stable. In contrast, the incidence of major cardiovascular disease increased through the 10th decade in both smokers and non-smokers.

Several limitations must be considered. Firstly, findings may not be generalisable to a broader population as the cohort consisted almost exclusively of highly educated white men. Participants might have a lower risk of cancer and cardiovascular disease than a general population for several reasons. They were healthy at baseline and had a lower incidence of smoking and obesity than expected. Most participants became regular users of aspirin after completion of the trial. Participants may also have had increased rates of screening, as reflected in higher rates of cancers detected by screening than in the general population. ■

Source: Driver, JA et al. Incidence of cardiovascular disease and cancer in advanced age: prospective cohort study. British Medical Journal: DOI: 10.1136/bmj.a2467

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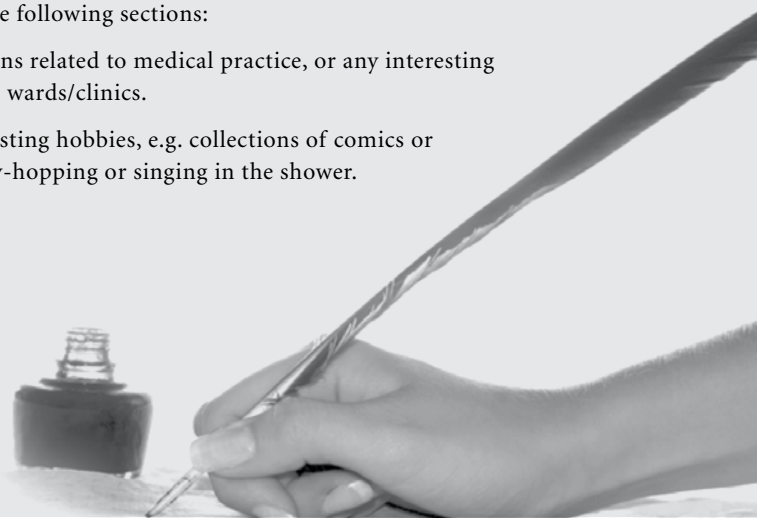
A Doc's Life – Personal reflections related to medical practice, or any interesting encounters in the wards/clinics.

Got a Life – Articles on interesting hobbies, e.g. collections of comics or rare insects, lindy-hopping or singing in the shower.



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