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Introduction: Alcohol intake has a monotonic detrimental role for several diseases (in particular some cancers), but is associated with reduced risk of ischemic heart disease when consumed in moderation. The association of moderate alcohol intake with total mortality remains controversial.

Objectives: Using data from the MOnica Risk, Genetics, Archiving and Monograph (MORGAM) Project, the association of alcohol intake with risk of total mortality was assessed using Cox regression and spline cubic analysis, stratified by country.

Results: Data for alcohol consumption (67.4% drinkers, median intake among drinkers 11 g/day), total mortality during follow-up (median 13.8 y) and covariates (age, sex, smoking, hypertension, diabetes, BMI and level of education) were available for 19 cohorts (1 from Australia and 18 from Europe (3 from Italy)), 193,557 individuals (mean age 51 ± 12 y, 60% men) and 34,799 deaths. Former drinkers have been excluded from the reference group, constituted by teetotallers. In comparison with the reference group, intake of alcohol up to 5 g/day was associated with a 10% (95%CI: 6.0% to 14.0%) reduction in the risk of death, intake between 5 and 10 g/day with a 4.4% (0% to 8.0%) reduction, while intake over 20 g/day was associated with a 19.7% (14.4% to 25.4%) increase in risk of death. Findings were similar in men and women and according to level of education, whereas they were heterogeneous by Countries, with greater protection of alcohol in moderation observed in Italy and France and lower in Australia, Germany and UK. Non-linear (J-shaped) association of alcohol intake with total mortality was confirmed by cubic spline curves.

Conclusions: Using a large multi-country cohort, we confirmed that intake of more than 2 alcoholic units per day has a detrimental health effect, while intake of alcohol in moderation (up to 1 unit per day) reduces the risk of death for any cause.

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BIOMARKERS OF INTAKE OF A MEDITERRANEAN DIET: WHICH CONTRIBUTION FROM THE GUT MICROBIOTA?

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Introduction: Observational studies indicate that the adherence to a Mediterranean diet is inversely associated with the incidence of some noncommunicable chronic diseases. The effect may be mediated by the gut microbiota that can influence the etiopathogenetic mechanisms through some metabolites active at colon and/or systemic level. On the frame of the DINAMIC project the objective of this study is to shade light on the biomarkers of Mediterranean diet in association with the composition of gut microbiota.

Methods: Eighty-two overweight/obese volunteers at risk of cardiovascular diseases participated into the randomized controlled trial. Volunteers followed for 8 weeks a personalized diet, isocaloric compared to the habitual diet, and based on a typical mediterranean dietary pattern (MD, n = 43) or a control diet (CD, n = 39). Adherence to the diets was assessed by a food diary filled every 2 weeks. At baseline and every 4 weeks blood, samples from fasting subjects and urine and fecal samples for the metabolomic analysis by LC/MS/MS and for the analysis of microbiota composition were collected.

Results: Diaries demonstrated that volunteers in MD vs CD increased the intake of wholegrain products, legumes, fish, nuts, fruits and vegetables while reducing meat, dairy and refined cereal products. Urine sample analysis showed in MD vs CD volunteers a reduction of carnitine, a trend towards increased betaine, and an increase of di-hydrocaffeic acid, chlorogenic acid and of urolithins-glucuronides. Such differences were accompanied by specific variations of gut miroiota composition or by a specific composition at baseline in some subgroups of subjects.

Conclusion: Individual adherence to MD modifies circulating metabolites that can mirror variations of gut microbiota composition and other parameters associated with the health.

A34
RELATIONSHIP BETWEEN ADHERENCE TO A MEDITERRANEAN DIETARY PATTERN AND CARDIOMETABOLIC RISK FACTORS PROFILE IN PEOPLE WITH TYPE 2 DIABETES

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Introduction: To analyze the relationship between adherence to the Mediterranean diet, glucose control, body weight and major cardiovascular (CV) risk factors in people with type 2 diabetes mellitus (T2DM) and to evaluate the impact thereon of specific foods, typical of this dietary pattern.

Methods: We studied 2568 patients with T2DM. Dietary habits were assessed with the EPIC (European Prospective Investigation into Cancer and Nutrition) questionnaire. Adherence to the Mediterranean diet (MED) was evaluated with the relative Mediterranean diet score (rMED) and low or high adherences were defined by a score of 0−6 or 11−18, respectively. Anthropometric and biochemical parameters were measured with standard protocols.

Results: High adherence to MED is associated with overall better quality of the diet (lower energy, added sugars, saturated fat and cholesterol intake: p <.05 for all) and with a greater adherence to the nutritional recommendations for diabetes. However, even in the high adherence group, only 17% of the participants complied with the recommendations for fibers and only 30% with those for saturated fat intake. The group with the greatest adherence to MED had a better control of glucose, plasma lipids and blood pressure independent of the use of drugs, and had lower BMI. Regarding the single components of MED, the consumption of fish, fruit and nuts is associated with a higher proportion of patients achieving treatment targets for plasma lipids; a high consumption of fruits, nuts, legumes, cereals and fish increases the frequency of patients with blood pressure values on target; the consumption of fish is also associated with a better glucose control.

Conclusions: In people with T2DM, adherence to MED is associated with a more favorable CV risk factors profile and a better glucose control independent of the use of drugs, and with a lower BMI. The beneficial effects of the diet as a whole are amplified by individual foods.

A35
INTERACTION BETWEEN MEDITERRANEAN DIET AND STATINS ON MORTALITY RISK IN PATIENTS WITH CARDIOVASCULAR DISEASE: PROSPECTIVE FINDINGS FROM THE MOLI-SANI STUDY

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Introduction: Statins are prescribed for patients with cardiovascular disease (CVD), along with the recommendation of adopting healthy diets. This stufy aimed to evaluate the independent and the combined effect of statins and Mediterranean diet (MD) towards mortality risk in subjects with previous CVD by using real-life data from a population-based prospective cohort. We performed a longitudinal analysis on 1,180 subjects (mean age 67.7 ± 10) with prior CVD at enrollment in the Moli-sani study and followed up for 7.9 years (median). Adherence to MD was appraised by a Mediterranean diet score (MDS). Hazard ratios (HR) with 95% confidence intervals (95%CI) calculated by multivariable Cox regression and competing risk models. Low-grade inflammation