increased levels of Albumin, Transferrin and Lymphocytes (Alb: 3.0 ± 0.6 vs. 3.2 ± 0.5 g/dL, $p < 0.001$; Transf: 176.6 ± 44.0 vs. 202.7 ± 53.4 mg/dL, $p < 0.001$; Lynph: 1.8 ± 0.8 vs. 2.1 ± 1.0 x10^3/μL, $p = 0.008$) and reduced number (2.4 ± 1.4 vs. 0.5 ± 1.0, $p < 0.001$) and degree (2.2 ± 0.5 vs. 0.5 ± 1.0, $p < 0.001$) of PS. During hospitalization, the percentage of patients receiving enteral nutrition decreased (83% vs. 51%, $p = 0.045$), whereas that of patients receiving oral feeding increased (14% vs. 53%, $p = 0.023$).

Conclusion: The preliminary results of this study are consistent with the latest ESPEN Neurological Guidelines, highlighting the importance of a correct and timely nutritional intervention carried out by an experienced and qualified Nutrition Team in the improvement of the nutritional state. This intervention, as part of a multidisciplinary approach to the patient with SBI, could lead to the optimization of the patient's rehabilitation potential, aimed at improving the outcome both from a neurological (reduced DRS) and physical (reduced number and severity of PS) point of view.

A30
THE ASSESSMENT OF NUTRITION STATUS WITH THE MINI NUTRITIONAL ASSESSMENT (MNA) IN PATIENTS WITH CHRONIC-OSTRUCTIVE PULMUNARY DISEASE (COPD)

Ada Di Gregorio [1], Paola Alicante [1], Francesca De Blasio [2], Alessandra Esposito [1], Francesco De Blasio [3], Alessandra De Chiara [3], Luca Scalfi [1]. [1] Dipartimento di Sanità Pubblica, Scuola di Medicina e Chirurgia, Università degli Studi Federico II, Napoli, Italy; [2] Dipartimento di Scienze Mediche, Università degli Studi di Torino, Torino, Italy; [3] Pneumologia e Riabilitazione Respiratoria, Clinic Center SpA, Napoli, Napoli, Italy

Introduction: Chronic obstructive pulmonary disease (COPD) is a chronic disease with a high prevalence of malnutrition. There are a few data in the literature on the use of Mini Nutritional Assessment (MNA) in COPD patients. MNA is a widely used tool for assessing nutritional status in the elderly. Aim of the study is to identify the prevalence of malnutrition in COPD patients using MNA and evaluate the relationships between MNA and body composition (bioelectrical impedance analysis = BIA).

Methods: Two hundred and one patients with COPD were recruited for the study (137 M/64 F, age 72.4 ± 6.3 yrs, weight 65.4 ± 15.7 kg, body mass index 25.4 ± 5.8 kg/m^2). BIA was performed with a HUMAN IM-TOUCH device (DS Medica, Milan); in addition to estimating free-fat mass (FFM), impedance ratio (IR = impedance-Z at 250 kHz/Z at 5 kHZ) and phase angle (PhA at 50 kHZ) were considered as indi-ces of body cell mass and extracellular water (quality of FFM). The diagnosis of "normal nutritional status", "risk of malnutrition" or "malnutrition" were made using the MNA questionnaire.

Results: Patients at risk of malnutrition were 65.6% of F and 44.5% of M, and those malnourished 17.2% and 20.4%, respectively, with higher percentages in the advanced stages of disease or for a worse prognosis. The prevalence of underweight was 74.4% for malnourished patients vs. 7% for those with normal nutritional status. FFM and IR were inversely correlated, and PhA directly correlated, with the MNA score. Compared with patients with normal nutritional status, IR and PhA were significantly lower in patients with malnutrition but not those at risk of malnutrition (vs. normal nutritional status).

Conclusions: In patients with COPD, MNA shows a high prevalence of patients with malnutrition or at risk of mal-nutrition, especially in the advanced stages of the disease or for a worse prognosis. In addition, malnourished patients showed significant changes in IR and PhA (BIA variables that are indexes of FFM quality).

A31
IMPACT OF MEDITERRANEAN VS VEGETARIAN DIETS ON GUT MICROBIOTA AND SHORT CHAIN FATTY ACIDS: THE CARDIVEG STUDY

Giuditta Pagliai [1], Edda Russo [1], Simone Baldi [1], Monica Dinu [1], Gianluca Bartolucci [2], Elena Niccolai [3], Giulia Nannini [1], Alessandro Casini [1], Amedeo Amedei [4], Francesco Sofi [1]. [1] Dipartimento di Medicina Sperimentale e Clinica, Università degli Studi di Firenze, Firenze, Italy; [2] NEUROFARBA, Sezione di Farmaceutica e Nutraceutica, Università degli Studi di Firenze, Firenze, Italy; [3] Dipartimento di Chirurgia e Medicina Traslazionale, Università degli Studi di Firenze, Firenze, Italy; [4] Dipartimento di Scienze Biomediche, Sperimentali e Cliniche "Mario Serio", Università degli Studi di Firenze, Firenze, Italy

Introduction: There is a growing interest in understanding how diet can modulate the intestinal microbiota, including its possible associations with diseases. The aim of the present project is to compare in a group of patients in primary prevention for cardiovascular disease (CV) the effects of Mediterranean (MD) and Vegetarian (VD) dietary patterns on the composition of the gut microbiota and on the production of short-chain fatty acids (SCFA).

Methods: Twenty-three clinically healthy subjects (16F; mean age: 58.6 years), enrolled in the CARDIVEG study, were randomly assigned to isocaloric MD or VD diets lasting 3-months each and then crossed. Anthropometric measurements, body composition, blood and fecal samples were obtained from each participant at the beginning and at the end of each intervention phase.

Results: At the end of the 3-month intervention phase, a total of 19 taxa reported a statistically significant variation ($p < 0.05$) due to diet: the relative abundance of 7 groups changed after MD and 12 groups after VD. No statistically significant differences were reported in the production of SCFA for MD, while a reduction in propionic acid (-23.7%) and an increase of both isobutyric (45%) and isovaleric (47.5%) acids emerged for VD. Correlation analyses showed a potential relationship — modulated by the 2 diets — between changes of taxa and the variations of clinical and biochemical parameters including the anthropometric parameters, the metabolic variables and the inflammatory parameters. In particular, a greater number of significant correlations for VD with respect to MD has been reported.

Conclusions: A 3-months period of dietary intervention with MD and VD was able to determine some effects on the gut microbiota. VD appears to have a greater impact as in the composition of the gut microbiota as in the production of SCFA and in correlations with changes in clinical and biochemical parameters.

A32
NON-LINEAR (J-SHAPED) ASSOCIATION OF ALCOHOL INTAKE WITH TOTAL MORTALITY: RESULTS FROM THE MORGAM PROJECT

Augusto Di Castelnuovo [1], Simona Costanzo [1], Marialaura Bonaccio [1], Patrick McElduff [2], Allan Linneberg [3], Veikko Salomaa [4], Satu Männistö [4], Marie Moitry [5], Jean Ferrières [6], Jean Dallongeville [7], Barbara Thorand [8], Hermann Brenner [9], Marco Ferrario [10], Abdonas Tamosiunas [11], Inger Njølstad [12], Wojciech Drygas [13], Yuriy P Nikitin [14], Stefan Söderberg [15], Frank Kee [16], Tanja Zeller [17], Kari Kuulasmaa [4], Stefan Blankenberg [17], Maria Benedetta Donati [1], Giovanni de Gaetano [1], Licia Iacoviello [18]. [1] IRCCS Neuromed, Pozzilli, Italy; [2] University of Newcastle & Hunter Medical Research Institute, Newcastle, Australia; [3] Center for Clinical Research and Prevention, Bispebjerg and Frederiksberg Hospital, Copenhagen, Denmark; [4] National Institute for Health and Welfare, Helsinki, Finland; [5] Department of Public Health, University Hospital of Strasbourg and Department of Epidemiology and Public Health, University of Strasbourg, Strasbourg, France; [6] Department of Epidemiology, Faculty of Medicine, Toulouse, France; [7] Univ. Lille, Inserm, CHU Lille, Institut Pasteur de Lille, Lille, France; [8] Helmholtz Zentrum München, German Research Center for Environmental Health, Institute of Epidemiology, Neuherberg, Germany; [9] German Cancer Research Center, Heidelberg, Germany; [10] Dipartimento di Medicina e Chirurgia, Centro di ricerca in epidemiologia e medicina preventiva (EPIMED), Università dell'Insubria, Varese, Italy; [11] Lithuanian University of Health Sciences, Kaunas, Lithuania; [12] Department of community medicine, University of Tromsø — the Arctic University of Norway, Tromsø, Norway; [13] Department of Epidemiology CVD Prevention and Health Promotion, National Institute of Cardiology, Warsaw, Poland; [14] The Institute of Internal and Preventive Medicine, Novosibirsk, Russian Federation; [15] Department of Public Health and Clinical Medicine, and Heart Centre, Umeå University, Umeå, Sweden; [16] UKCRC Centre of Excellence for Public Health, Queens

University of Belfast, Belfast, Ireland; [17] Department for General and Interventional Cardiology, University Heart Center Hamburg, Hamburg, Germany; [18] IRCCS Neuromed e Università dell'Insubria-Varese, Pozzilli-Varese, Italy

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.

A33
BIOMARKERS OF INTAKE OF A MEDITERRANEAN DIET: WHICH CONTRIBUTION FROM THE GUT MICROBIOTA?

Paola Vitaglione [1], Angela Albarosa Rivellese [2], Danilo Ercolini [1], Marilena Vitale [3], Rosalba Giacco [4], Francesca De Filippis [1], Ilario Mennella [5]. [1] *Dip. di Agraria, Università "Federico II" di Napoli, Task Force on Microbiome Studies, Università "Federico II" di Napoli, Italia, Portici, Italy;* [2] *Dip. di Medicina Clinica e Chirurgia, Università "Federico II" di Napoli, Task Force on Microbiome Studies, Università "Federico II" di Napoli, Italia, Napoli, Italy;* [3] *Dip. di Medicina Clinica e Chirurgia, Università "Federico II" di Napoli, Napoli, Italy;* [4] *Istituto di Scienze dell'Alimentazione (CNR), Avellino, Italy;* [5] *Dip. di Agraria, Università "Federico II" di Napoli, Portici, Italy*

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 mironiota 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

Ilaria Calabrese, Marilena Vitale, Maria Masulli, Angela Albarosa Rivellese, Gabriele Riccardi, Olga Vaccaro. *Dipartimento di Medicina Clinica e Chirurgia, Università di Napoli "Federico II", Napoli, Italy*

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

Marialaura Bonaccio [1], Augusto Di Castelnuovo [1], Simona Costanzo [1], Mariarosaria Persichillo [1], Amalia De Curtis [1], Chiara Cerletti [1], Maria Benedetta Donati [1], Giovanni De Gaetano [1], Licia Iacoviello [2]. [1] *IRCCS Neuromed, Pozzilli, Italy;* [2] *IRCCS Neuromed e Università dell'Insubria-Varese, Pozzilli/Varese, Italy*

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