

# 11<sup>TH</sup> EUROPEAN NUTRITION AND DIETETICS CONFERENCE

June 29-July 01, 2017 Madrid, Spain

## Nitric oxide, superoxide anion, malondialdehyde and nutritional profile in colorectal cancer in the West of Algeria

Badid Naïma, Merzouk Hafida and Medjdoub Amel  
University Abou-Bekr Belkaid, Algeria

Colorectal cancer (CRC) ranks second in terms of incidence and mortality in Algeria, because of the number of cases increasing steadily each year. The major risk factors in relation to the CRC are still essentially lifestyle (Sedentariness, low physical activity, diet troubles and tobacco). The case-control study concerns 20 cases of CRC and 30 controls of male encompasses the risk factors in the development of the CRC in the population of the Wilaya of Tlemcen (Western region of the Algeria). Glucose, lipids, LDL-cholesterol, markers of oxidant status (malondialdehyde, nitric oxide and superoxide anion) was investigated in CRC patients and in control male. Also a food survey was guided in the same population. Our findings showed that the CRC patients reach at health services with a Stage III at 60% and a Grade II at 70%. Body mass index, lifestyle and hereditary predisposition are identified as CRC risk factors. In this population, CRC is associated with tobacco active and passive consumption, sedentariness, low physical activity, significantly lower oilseed intake. A hypo-albuminemia was revealed, LDL-Cholesterol, uric acid, nitric oxide (NO<sub>2</sub>), superoxide anion (O<sub>2</sub><sup>-</sup>) and malondialdehyde (MDA) concentrations were significantly increased in patients compared to controls. In conclusion, CRC is associated with lipid alterations and increased oxidative stress linked to NO<sub>2</sub>, O<sub>2</sub><sup>-</sup> and MDA and low levels in physical activity.

badidnaima@gmail.com

## Influence of the high-fat diet associated (or not) with the consumption of purple grape juice on gestational weight gain, biochemical profile and oxidative parameters of dams

Caroline Dani<sup>1</sup>, Luciana Kneib Goncalves<sup>1</sup>, Marina Fruscante<sup>1</sup>, Patrícia Spada<sup>2</sup>, Cláudia da Silva Funchal<sup>1</sup> and Leena Hilaki-Clarke<sup>3</sup>

<sup>1</sup>Centro Universitário Metodista, Brazil

<sup>2</sup>Faculdade da Serra Gaúcha, Brazil

<sup>3</sup>Georgetown University, USA

The objective of this study is to evaluate the effects of grape juice intake and high fat diet on gestational weight gain, biochemical profile and parameters of oxidative stress in brain (cortex, cerebellum and hippocampus). All procedures performed in these experiments were authorized by the animal ethics committee through the protocol number 009/2014 of Methodist University Center IPA. We observed that the grape juice consumption during the pregnancy provoke a reduction on weight gain during this period compared to the control group. About the lipid profile, we observed that the high fat diet induced an increase on LDL-cholesterol, total cholesterol and triglycerides levels, and a decrease on HDL-cholesterol level. In the hepatic damage markers, we observed that the grape juice consumption was capable to reduce the ALT and AST levels. All these analyses were performed on serum. In brain, we observed that the grape juice consumption reduced the lipid peroxidation in cerebral cortex and cerebellum, any difference was observed in hippocampus. The protein oxidation was decreased in the hippocampus from the dams that received grape juice. Also, the grape juice consumption during the pregnancy reduced the superoxido dismutase activity in hippocampus and cerebellum. In this way, the grape juice consumption increased the antioxidant defense of non-enzymatic (sulphidryl content) in cerebellum. We concluded that the pregnancy dietary choices are very important to improve the health during this period. The intake of grape juice appeared as a good option to reduce the gain weight and also to reduce de oxidative stress damage during this period.

caroline.dani@ipa.metodista.br