

2<sup>nd</sup> World Congress on

# Pediatrics and Clinical Pediatrics

June 12-13, 2019 | Edinburgh, Scotland

## Cardiometabolic risk factors in children with Celiac disease on a gluten-free diet

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Celiac disease (CD) is an immune-mediated systemic condition evoked by gluten and related prolamines in genetically predisposed subjects, characterized by a variable combination of clinical symptoms, CD-specific antibodies, HLA-DQ2 and HLA-DQ8 haplotypes, and enteropathy. The only therapy is a life-long gluten free diet (GFD). Strict GFD adherence results in full clinical, serological and histological remission, avoiding long-term complications in CD patients. However, gluten-free products have high levels of lipids, sugar and salt to improve food palatability and consistency, and subjects with CD show an excessive consumption of hypercaloric and hyperlipidic foods to compensate dietetic restriction. GFD may therefore have a negative impact on cardiometabolic risk factors such as obesity, serum lipid levels, insulin resistance, metabolic syndrome, and atherosclerosis. We analysed the current clinical evidence on the impact of GFD on cardiometabolic risk factors in children and adolescents with CD. The available literature shows conflicting data: the majority of studies indicate changes in markers associated with cardiovascular risk. However, these variations do not constantly point at a better or worse cardiovascular risk profile. Limitations of most studies comprise the relatively small sample size, the cross-sectional design that does not permit comparison between pre- and post-GFD

values of the evaluated parameters, and the absence of knowledge of familial history for CVD risk factors. Therefore, additional longitudinal, well-designed studies involving a large number of children with long-term follow-up are necessary to clarify whether prolonged exposure to GFD might result in an increased cardiometabolic risk. GFD remains the milestone of CD treatment. Nonetheless, an in-depth assessment of nutritional status along with cardiometabolic screening in CD children at diagnosis and during GFD have to be recommended because an early intervention may prevent cardiovascular morbidity. Dietary guidance over time, besides monitoring adherence to GFD, may therefore be warranted in youths with CD.

### Speaker Biography

Francesca Olivero has completed her MD *cum laude* at the age of 24 years from Sapienza University, Rome, Italy. Now, she is a first-year paediatric trainee at San Matteo University Hospital of Pavia, Italy. During medical school she participated to 5 International publications and she has contributed to the writing of chapters of 3 books. Her work has been presented as oral presentations at International Conferences. She has been awarded prizes such as "Accademia Lancisiana prize 2016 - 2017 for new medical graduates for a particularly relevant final thesis" and the award "excellent graduate 2016-2017" Giornata del Laureato - Sapienza University of Rome.

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