Poster

Early diagnosis and monitoring of celiac disease in the youth and paediatric population

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ABSTRACT

Motivation: Celiac Disease (CD) is an autoimmune enteropathy triggered in genetically predisposed individuals due to gluten ingestion. There is an interference in the absorption of nutrients and the variety of symptoms may lead to other complications within untreated patients. Therefore, the major milestones are both to perform an early diagnosis of the disease and to monitor the Gluten-Free Diet (GFD) which is the only therapeutic treatment feasible. This will be addressed through the studies Celisin and GlutenDetect which performs a mass screening for the detection of celiac patients and analyzes the adherence to the GFD, respectively.

Methods: Patients who fulfilled inclusion criteria were given questionnareis related to symptomatology, diet adherence, gluten consumption and/or quality of life. Hence, blood samples were analyzed to detect tissue transglutaminase IgA (tTG-IgA) antibodies with the immunochromatographic rapid test CeliacDetect (Biomedal S.L.). Urine and stool samples were analyzed in order to detect Gluten Immunogenic Peptides (GIP) with the commercialized kits iVYCHECK GIP Urine or iVYLISA GIP Stool (Biomedal S.L.). The data obtained were collected and analyzed through the IBM SPSS Statistics V25.0 program from IBM (Armonk, NY, USA).

Results: At the moment of the statistical analysis, 39 volunteers (10 males, 29 females) were recruited for Celisin (expected recruitment 1000 patients) and 38 (14 males, 24 females) for GlutenDetect (expected recruitment 1000). Within the participants of Celisin, 19 (53,3%) refused having any symptoms while 16 (45,7%) confirmed the presence of some. Moreover, just a female (2,6%) obtained a positive result while the rest of participants (94,9%) tested negative in blood samples. Nevertheless, participants in the GlutenDetect study were assigned to either an intervention or control group. Data related to the analysis of urine and stool samples was obtained within 21 (55,3%) volunteers. Notwithstanding, most urine samples tested negative whilst 17 (81%) participants tested negative when analysing stool samples.

Conclusions: The early detection of celiac patients will improve their diagnosis and quality of life. The only treatment available is to adhere to a lifelong GFD, which is challenging because gluten appear as a frequent ingredient. In consequence, a late detection of the disease may cause severe conditions and monitoring the daily gluten consumption is crucial in order to avoid them.

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