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patients (27%). Overall, vitamin D was inversely associated with CDAI ( $r=-0.321$ ;  $p=0.04$ ) and serum alpha2 globulin protein fraction ( $r=-0.364$ ;  $p=0.02$ ); while it was positively correlated with albumin levels ( $r=0.393$ ;  $p=0.009$ ). Moreover, in the subset of patient with vitamin deficiency, vitamin D was negatively associated with C-reactive protein (CRP) ( $r=-0.339$ ;  $p=0.05$ ) and positively correlated with HGS ( $r=0.335$ ;  $p=0.05$ ).

**Conclusion:** A high prevalence of vitamin D deficiency was detected, although the majority of patients were clinically quiescent. Additionally, those with lower vitamin D showed higher disease activity and lower albumin and HGS values than other patients. Further investigation is required for monitoring vitamin D status in patients with CD and its relationship with disease activity and nutritional status.

**Disclosure of Interest:** None declared.

## P142

### EARLY ORAL NUTRITIONAL SUPPLEMENTATION WITH A TGF- $\beta$ 2 ENRICHED FORMULA FOR COVID-19 PATIENTS: A NEW POSSIBLE STRATEGY TO MODULATE INFLAMMATION?

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**Rationale:** During COVID-19 infection substrate depletion and catabolism occur; SARS-COV 2, acting on intestinal permeability and microbiota balance, leads to pro-inflammatory cytokines production up to cytokine storm. Deregulated immune response and gastrointestinal clinical symptoms resemble IBD in their manifestation. In the evidence for a gut-lung axis, where gut barrier integrity plays a major role in adapting and regulating the immune response, aim of this on-going multicentric study is to investigate efficacy and safety of a specific nutritional formula enriched in TGF- $\beta$ 2, in fighting malnutrition and reducing systemic inflammation.

**Methods:** A multicentric study was conducted and COVID-19 inpatients were enrolled. The protocol consists in supplying 150 gr of TGF- $\beta$ 2 enriched formula powder (750 kcal/day) next to standard nutrition and standard cares. Values of serum prealbumin, transferrin, C-reactive protein and Lymphocyte count were collected at baseline and every week. Data were compared to an untreated sample of inpatients.

**Results:** Data analysis is in progress. From our preliminary results, the TGF- $\beta$ 2 enriched formula modulates inflammatory response besides improving nutritional status, with a strong correlation between higher level of prealbumin and lower level of CRP. We found a correlation between formula use and a mild course of the disease, without worsening gastrointestinal symptoms.

**Conclusion:** Ameliorating nutritional status is mandatory during critical illness. This specific formula with immune-regulatory properties improves outcomes of COVID19 inpatients and could represent a promising possibility to face all acute inflammatory diseases with a high nutritional impact.

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Grandone I, Cavallo M, Barana L, Cerasari A, Luca G, Vaudo G. A TGF - beta2 enriched formula as an oral nutritional supplement for hospitalized COVID-19 patients. *Minerva Gastroenterol (Torino)*. 2021 Apr 15. doi: 10.23736/S2724-5985.21.02820-8. PMID: 33856141.

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## Vitamins, antioxidants and minerals

### P143

#### THE IMPACT OF VITAMIN D LEVELS IN PREDICTING CHILDHOOD ASTHMA AMONG EGYPTIAN INFANTS

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**Rationale:** Ecologically, many of the patterns of vitamin D deficiency appear to be parallel to the patterns of the asthma epidemics. There are several Potential mechanisms for how vitamin D might decrease the disease severity of asthma and allergies. In this study, we tried to study the effect of serum vitamin D on the risk of development of childhood asthma by calculating Asthma predictive index (API) in relation to serum vitamin D levels.

**Methods:** In this cross-sectional study fifty wheezy infants and thirty healthy controls of matched age and sex were included. Feeding history and exposure to environmental factors and were assessed through parents' questionnaire. The clinical characteristics of the children were assessed as well as the asthma predictive index. The serum levels of vitamin D, Calcium and Phosphorus were measured in all patients. Correlation analysis was used to evaluate the relationship between homogeneously distributed variables.

**Results:** Thirty-three of the fifty wheezy child (66%) were recurrent wheezers (had more than three wheezing attacks/year). The Asthma Predictive Index index was found to be positive in thirty two patients (64%). Serum Vitamin D was significantly lower in wheezy infants compared to control group as well as API (+ve) patients compared to API (-ve) patients ( $p=0.013$ ,  $p<0.01$  respectively). Serum Vitamin D level showed significant (-ve) correlation with number of previous wheezing episodes ( $p<0.01$ ).

No significant difference was found between the API (+ve) group and API (-ve) group in terms of other laboratory markers (Calcium, Phosphorus and Eosinophil count).

**Conclusion:** Vitamin D deficiency was found to be more prevalent in wheezy infants than controls, suggesting it might play an underestimated role in pathogenesis of wheezes in infants. We also suggest that serum vitamin D levels might be used as a biomarker for prediction of (+ve) API state, raising the possibility of having childhood asthma.

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## P144

### THE EFFECT OF OLIVE LEAF EXTRACT CONTAINING NATURAL ANTIOXIDANT ON THE FORMATION OF HETEROCYCLIC AROMATIC AMINES IN OIL FREE PAN-COOKED SALMON

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**Rationale:** Heterocyclic aromatic amines (HCA) are mutagenic and carcinogenic compounds that are formed at low levels (ng / g) by cooking protein-rich foods such as meat and fish. These compounds play an important role in the etiology of human cancer, so researchers suggest that the formation of HCAs should be minimized. It has been reported that antioxidants can reduce HCA formation by retaining the free radicals formed in HCA formation mechanism and Maillard reaction. The aim of this study was to investigate the preventive effects of the olive leaf extract on the formation of HCAs.

**Methods:** This study was conducted in different levels (0%, 0.5%, 1% and 2%) olive leaf extract was added to the salmon fish and the reducing effect of HCA formation was investigated by applying cooking method in 180° C and in oil free pan. In all salmon samples were analyzed 2-amino-3-methylimidazo [4,5-f]quinoxaline (IQx), 2-amino-3-methylimidazo[4,5-f] quinoline (IQ), 2-amino-3,8-dimethylimidazo[4,5-f]quinoxaline (MeIQx), 2-amino-3,4-dimethylimidazo[4,5-f]quinoline (MeIQ), 2-amino-3,4,8-trimethylimidazo[4,5-f] quinoxaline (4,8-DiMeIQx), 2-amino-3,7,8-trimethylimidazo[4,5-f]quinoxaline (7,8-DiMeIQx), 2-amino-1-metil-6-phenylimidazo[4,5-b]pyridine (PhIP), 2-amino-9H-pyrido[2,3-b]indole (A $\alpha$ C), 2-amino-3-methyl-9H-pyrido[2,3-b]indole (MeA $\alpha$ C) and 3-amino-1-methyl-5H-pyrido [4,3-b] -indole (Trp-P-2). HCAs were analyzed by HPLC (High Performance Liquid