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Methods: A retrospective study with patients treated for peritoneal carcinomatosis was accomplished. Patients were divided into two groups based on whether they had been prepared with immunonutrition supplements (IMN) at the preoperative period or not (non-IMN). Immunonutrition supplements were administered 7 days prior to surgery. Peritoneal cancer index (PCI), the number of visceral resections, and postoperative morbidity and mortality according to Clavien-Dindo classification were gathered. CRP serum levels at the early postoperative period were also recorded.

Results: A total of 107 patients were assessed. Of them, 48 belonged to the IMN group and 59 to the no-IMN group. Visceral resections were more frequently performed in the IMN group compared to the non-IMN patients ($p < 0.002$). The median PCI was higher in the IMN group compared to the non-IMN group (10 vs 8, $p < 0.001$). Postoperative major complications occurred more frequently in the non-IMN group patients compared to the IMN group (30.5% and 20.8%) although this difference was not significant. Immunonutrition emerged as independent protective factor to develop major morbidity (OR 0.38; 95%CI 0.36-0.40; $p < 0.001$). CRP value over 165 mg/l throughout the postoperative days 2 and 3 with an AUC of 0.75 (95%CI 0.68-0.89) was associated to develop postoperative major morbidity.

Conclusion: Preoperative intake of immunonutrition supplements protected against the development of major morbidity and should be recommended to patients with peritoneal carcinomatosis following cytoreductive surgery. CRP levels may be useful to predict major morbidity early in these patients.

Disclosure of Interest: None declared.

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COVID-19 HOSPITALIZED PATIENTS AT NUTRITIONDAY: USE OF ENTERAL NUTRITION, PARENTERAL NUTRITION OR ORAL NUTRITIONAL SUPPLEMENTS IS ASSOCIATED WITH BEING BEDRIDDEN, NOT BEING ALLOWED TO EAT, LOW APPETITE AND LOW BMI

S. Tarantino^{*1}, I. Sulz¹, R. Barazzoni², C. Cuerda-Compes³, S. Schneider⁴, M. Hiesmayr¹ on behalf of nutritionDay research group. ¹Cemsiis, Medical University Vienna, Vienna, Austria; ²Medicine, Surgery and Health Sciences, University of Trieste, Trieste, Italy; ³Nutrition Unit, Hospital General Universitario Gregorio Marañon, Madrid, Spain; ⁴Gastroenterology and Nutrition Department, Archet University Hospital, Nice, France

Rationale: Assessment, monitoring and treatment of malnutrition is recommended to be included in the management of COVID-19 patients. We investigated the prevalence of malnutrition risk factors in hospitalized COVID-19 positive patients and the association with nutritional support at nutritionDay 2020.

Methods: We included 2739 patients from the nutritionDay cohort 2020. The association between COVID status and risk factors was estimated with χ^2 test and GLM logistic regression (STATA 15.1). Units were considered as random factors. Results as Odds ratios (OR) with 95% confidence intervals (CI).

Results: We compared nutritional therapy in 88 COVID-19 positive patients (53 % men, median age 60.5 yr [IQR[47-75]]) with 1962 patients (53% men, median age 60 [IQR[43-73]]) who never had COVID-19 from nutritionDay 2020. COVID-19 patients were less often identified as malnourished (10% vs 15%^{***}) but much more often at risk for malnutrition (43% vs 21%^{***}). Overweight or obesity prevalence (41% vs 29% and 28% vs 15%) often masked the identification of COVID-19 patients as malnourished or at risk for malnutrition by the unit staff. Twice as many COVID patients ate nothing on nutritionDay (20% vs 10%).

Most of the patients received hospital food (31% vs 59%^{***}) or a special diet (43% vs 32%), ONS (16% vs 18%), EN (23% vs 5%^{**}) and PN (13% vs 4%^{*}),

sometimes in combination. Enteral nutrition (EN) is associated with not being allowed to eat 2.45* [1.11 5.39] and being bedridden 13.48^{***} [5.74 31.64], parenteral nutrition (PN) with eating nothing 4.50* [1.07 18.87] and not being allowed to eat 3.25* [1.26 8.41] whereas ONS use was associated with “not having my usual appetite” 3.25* [1.26 8.41]. If considering only COVID status and eating on nutritionDay EN use but not ONS use is associated with COVID-19 and eating nothing on nutritionDay (see table). ONS are used when eating is decreased to 1/2 or 1/4 of the meal served OR 2.37* [1.43-3.93] and 2.15* [1.24-3.73].

Mortality rate was 24% in COVID-19 patients vs 3% in non-COVID patients.

Conclusion: Obesity and overweight might mask the identification of patients as malnourished or at risk for malnutrition by the unit staff. Patient status and medical decisions such as not allowing to eat have a strong effect on nutrition care choices. EN & PN are targeted to patients eating nothing and ONS to patients with reduced eating.

Disclosure of Interest: None declared.

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MICRONUTRIENT STATUS IN PATIENTS WITH INTESTINAL FAILURE ON HOME PARENTERAL NUTRITION

G.M. van der Werf^{*1,2}, N.M. van Rijnssen^{1,2}, M.H. van Veghel¹, C.F. Jonkers², M.A. Boermeester³, M.J. Serlie¹. ¹Department of Endocrinology & Metabolism (TPN & Intestinal Failure Clinic), the Netherlands; ²Nutrition and Diagnostics, the Netherlands; ³Department of Surgery (TPN & Intestinal Failure Clinic), Amsterdam University Medical Center, Amsterdam, the Netherlands

Rationale: Intestinal failure (IF) patients are at risk for micronutrient deficiencies and the ESPEN guideline for patients on home TPN (HPN) suggests to assess micronutrient status on a regular basis. This study aims to describe the period prevalence of micronutrient deficiencies or excess in IF type II and III patients.

Methods: We conducted a retrospective cohort study and included all adult patients treated with HPN in 2019. Primary outcome was the vitamin status of vitamins B1, B6, B12, A, D, E and folic acid.

Results: The cohort of intestinal failure patients consists of 353 patients. We excluded 215 deceased patients and patients who did not visit the outpatient clinic in 2019. Forty-one patients were excluded because they did not receive HPN or iv saline. We included 97 patients, sample sizes differ between micronutrients (range 81-88). 33 patients (34%) were men, median age was 60 (range 18-92 years). 47 patients (48%) had short bowel syndrome and 26 patients (27%) intestinal dysmotility. 79 patients (81%) were classified as type III IF. 57% and 58% of patients used daily water-soluble and fat-soluble vitamins respectively. 64% of patients used additional oral vitamin D supplementation (median 50.000 IU per week, range 2800-350000 IU per week). No patients had hypovitaminosis of vitamin B1, vitamin B12 or folic acid. B1 hypervitaminosis was present in 10% of patients of whom 50% used intravenous water-soluble vitamins daily. Vitamin B12 was high in 23% of patients and folic acid was high in 20%. 79% and 59% of these patients used daily intravenous water-soluble vitamins respectively. Remarkably, vitamin B6 was too high in 45% of patients with a median of 241.4 nmol/L (range 200.4-456.4 nmol/L). Daily use of water-soluble vitamins was significantly associated with high circulating vitamin B6 (OR 4.8, 95% CI 1.75 -14.32, $p < 0.001$). Vitamin A was measured in 82 patients and 4 patients were deficient and 18 (22%) had hypervitaminosis A with a higher prevalence in men ($n=12$, 67%, $p < 0.005$). 12% of patients were vitamin D deficient (< 50 nmol/L) and age was significantly associated with low vitamin D levels ($p=0.03$). Hypervitaminosis E was present in 25% of patients while only 1 patient had a low vitamin E concentration.

	EN use: OR [CI95]	PN use: OR [CI95]	ONS use: OR [CI95]
COVID (yes vs no)	5.09* [1.11 23.42]	3.76 [0.93 15.29]	1.27 [0.48 3.36]
Eating ¼ on nutritionDay	1.87 [0.53 6.59]	3.48 [0.71 17.01]	2.15 ^{**} [1.24 3.73]
Eating nothing & not allowed	7.04 ^{***} [2.43 20.41]	12.55 ^{***} [4.43 35.51]	0.46 [0.19 1.10]