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Results: Sixty four patients were admitted to the ICU for management of COVID19 (mean age 60.6yrs (range 21–90yrs), 66% male, mean ICU LOS 16.5 days (range 1–71days)). Weight status in this cohort is presented below.

Admission weight (kg, mean (range))	81.7 (45–155)
BMI (kg/m ² , mean (range))	29.6 (18.3–62.1)
Underweight BMI <18.5kg/m ² (%)	1.75
Healthy weight BMI 18.5–24.9kg/m ² (%)	24.5
Overweight BMI 25–29.9kg/m ² (%)	36.8
Obese BMI>30kg/m ² (%)	36.8

69% of patients experienced at least 5% weight loss during ICU admission and 31% had greater than 10% weight loss, despite provision of nutrition support.

Conclusion: Overweight and obesity were prevalent in patients admitted to our ICU for management of COVID19. Significant weight loss in this cohort confirms that malnutrition and obesity co-exist in critically unwell patients. These findings are consistent with emerging data from other centres internationally³ and inform appropriate nutritional management of this cohort of critically ill patients.

References: ¹Simonet et al. *Obesity* (2020) 28: 1195–1199, ²Lew et al. *JPEN* (2017) 41(5):744–58, ³House et al., ICNARC 2020.

Disclosure of Interest: None declared.

LB-116

PREVALENCE, RISK FACTORS AND CLINICAL IMPLICATIONS OF HYPOPHOSPHATEMIA IN CRITICALLY ILL CHILDREN ON ORAL AND ENTERAL NUTRITION

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Rationale: Hypophosphatemia events frequently occurs in pediatric intensive care units (PICU) and is related to comorbidities such as sepsis, malnutrition and risk of mortality. These events are poorly described in oral and enteral nutrition. The aim of this study is evaluate the incidence of hypophosphatemia in critically ill pediatric patients under baseline serum without phosphate, in oral and/or enteral nutrition and investigate possible relationship with nutritional and inflammatory status.

Methods: Prospective, observational cohort study, conducted between March 2017 and July 2018 at a PICU of a tertiary hospital. Participants aged 28 days to 14 years were included. The anthropometric assessment (weight and height) and the laboratory assessment (CRP and phosphorus (P) and vitamin D (Vit – D) intake per day were recorded.

Results: 112 participants were included in the study. Hypophosphatemia events varied from 27.2% – 37.5% between periods. A CRP as an inflammatory marker occurred in all intervals, ranging from 65 to 80%. The median intake of PTN, Ca, P and Vit D did not reach as current recommendations throughout the study. The inflammatory state was associated with hypophosphatemia (p-value = 0,003).

Conclusion: Hypophosphatemia is frequent in critically ill pediatric patients, even if they are not under parenteral nutrition. It is necessary to monitor phosphorus levels and think about the possibility of an early replacement.

References: Leite HP, Pinheiro Nogueira LA, Teodosio AHC. Incidence and Clinical Outcome of Hypophosphatemia in Pediatric Burn Patients. *J Burn Care Res.* 2017;38(2):78–84.

Mehta NM, Skillman HE, Irving SY, Coss-Bu JA, Vermilyea S, Farrington EA, et al. Guidelines for the Provision and Assessment of Nutrition Support Therapy in the Pediatric Critically Ill Patient: Society of Critical Care Medicine and American Society for Parenteral and Enteral Nutrition. *JPEN J Parenter Enteral Nutr.* 2017 Jul;41(5):706–42.

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LB-117

ANALYSIS OF NUTRITION SUPPORT IN COVID19 CRITICAL CARE PATIENTS

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Rationale: The aim of this analysis was to determine route and adequacy of nutrition support in patients with COVID19 during the first 7 days of admission to an intensive care unit (ICU).

Methods: Nutrition parameters were collected for all patients admitted to ICU with COVID19 and compared to best practice guidelines¹.

Results: Of the initial 64 patients admitted to ICU for management of COVID19, all patients were assessed by a critical care dietitian. Patients who were tolerating oral diet were commenced on oral nutrition support as appropriate. Forty eight patients (75%) required enteral nutrition (EN) or parenteral nutrition (PN). The feeding route of choice for the majority of patients was EN (89.5%). In patients with gastrointestinal (GI) intolerance where strategies to optimise tolerance were unsuccessful, supplementary or total PN was used (10.5%). Energy and protein intakes during the early and late acute phase are described below.

	Target nutrition provision ¹	Energy (% requirements met)	Protein (% requirements met)
Early acute phase Day 0–3 ¹	≤70% estimated requirements	69.8 (27.2)	44.2 (23.8)
Late acute phase Day 4–7 ¹	100% estimated requirements	81.5 (25.4)	67.8 (28.4)

The most common reason for suboptimal nutrition intake in the late acute phase was GI intolerance, affecting 27% of patients. Compared with those without GI intolerance, patients who experienced feed regurgitation, vomiting or high gastric residual volumes achieved significantly less energy and protein intakes (p<0.05). Prone position did not affect GI tolerance in our cohort (p=0.65).

Conclusion: Energy intakes in the early acute phase were consistent with best practice guidelines while protein provision was a challenge in both phases. GI intolerance was common which compromised nutrition intakes, though prone position did not affect these outcomes. Where strategies to improve GI tolerance are unsuccessful supplementary PN should be considered without delay to optimise nutrition intake.

References: ¹Singer et al. *Clinical Nutrition* (2019) 38(1), 48–79.

Disclosure of Interest: None declared.

LB-118

NUTRITIONAL TREATMENT IN CRITICALLY ILL PATIENTS WITH COVID-19 DISEASE: SPANISH EXPERIENCE IN A UNIVERSITY HOSPITAL (EXTENDED)

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Rationale: Patients with COVID-19 disease develop respiratory insufficiency, 5% of which needs ICU treatment. Describe the experience of a tertiary hospital in the nutrition treatment during this pandemic.

Methods: Retrospective study including COVID-19 patients from 5 ICU units of our hospital that needed medical nutrition treatment (MNT). Collected variables: sex, age, BMI, underlying diseases, time from hospitalisation to ICU admission, type of respiratory support, caloric and protein requirements (25 kcal/kg adjusted body weight (ABW), 1.3 g/kg ABW/day), MNT type (enteral nutrition (EN), parenteral nutrition (PN), mixed EN+PN), total calories (including propofol) and proteins administered,

percentage of caloric and protein goal in ICU day 4th and 7th, metabolic complications, kidney failure, mortality.

Results: 139 patients were included (74.8% men), 59.6±13.8 years, BMI 29.9±5.3 kg/m². Comorbidities: 52.3% overweight, 38.6% obesity, 47.5% hypertension, 43.9% dyslipidaemia, 18.7% diabetes. 82.7% required mechanical ventilation (90.4% of whom pronation), 3.6% ECMO. Hospitalisation to ICU admission time: 3.3±4.3 days. 12.2% EN, 29.5% PN, 51.8% mixed EN+PN. Caloric and protein requirements: 1773±252 kcal and 91.7±17 g. Table 1 presents total calories and proteins administered at day 4th and 7th. 61.9% and 8.6% patients had low levels of P and Mg in the first week, 74.1% hyperglycaemia, 7.9% hypoglycaemia, 70.5% hypertriglyceridemia (23.5% >500 mg/dl), 25.9% AKF and 10.8% KRT, 31.7% mortality. 5 patients are still in ICU. ICU length of stay was 21.8±15.7 days.

Table 1.	Calories (kcal)	Protein (g)
ICU:4 th day	1282±614	60±31
ICU:7 th day	1351±688	67.8±37

Conclusion: Most of our patients reached estimated caloric and protein target at day 4th and 7th of ICU. PN was necessary in most of our sample in the first week to reach nutritional requirements. We observed a high rate of metabolic complications which requires close monitoring of nutritional treatment.

References: Clinical Nutrition 38 (2019) 48–79

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LB-119

ASSOCIATION BETWEEN HYPERGLYCEMIA AND INFLAMMATION IN CRITICALLY ILL PATIENTS

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Rationale: Critically ill patients have metabolic changes related to stress, such as hyperglycemia. C-Reactive Protein (CRP) is an acute-phase protein and an important indicator of systemic inflammation used in clinical practice. We aimed to verify if there is association between hyperglycemia and inflammatory state, and the risk of the patient with inflammation presenting hyperglycemia.

Methods: A cross-sectional study that evaluated adult and elderly inpatients in an intensive care unit (ICU) between February and June 2019, aged 20 years old or over. Age, sex, CRP and blood glucose data were evaluated. Hyperglycemia was considered when glucose values were greater than 180 mg/dL. CRP levels were considered high when greater than 0.5 g / dL. To verify the association between CRP and hyperglycemia, the chi-square test of independence was performed, with a significance level of p <0.05. The risk of the patient with inflammation presenting hyperglycemia was assessed, with odds ratio (OR) and 95% confidence interval.

Results: Among 67 patients included, after considering the exclusion criteria, 45 patients were selected, 56.1% female (n=26). The mean age was 62.5±19.6 years. The mean blood glucose was 241±60.1 mg/dL. The mean CRP was 15.8±5.5 mg/dL. It was verified that there is association between hyperglycemia and inflammatory state [OR: 3.82 (2.56 - 4.01), p <0.001]. The chance of a patient in an inflammatory state presenting hyperglycemia is almost four times bigger.

Conclusion: It is concluded that there is an association between hyperglycemia and inflammatory state for both sexes, and inflammation increases the risk of developing hyperglycemia.

References: McMahon MM, Nystrom E, Braunschweig C, et al; American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.) Board of Directors; American Society for Parenteral and Enteral Nutrition. A.S.P.E.N. clinical guidelines: nutrition support of adult patients with hyperglycemia. JPEN J Parenter Enteral Nutr. 2013 Jan;37(1):23–36. Moghissi ES, Korytkowski MT, DiNardo M, et al. American Association of Clinical

Endocrinologists and American Diabetes Association consensus statement on inpatient glycemic control. Endocr Pract. 2009;15:353–369

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LB-120

NUTRITIONAL TREATMENT IN CRITICALLY ILL PATIENTS WITH COVID-19 DISEASE: FROM GUIDELINES TO CLINICAL PRACTISE

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Rationale: Describe the experience of a tertiary hospital in the nutrition treatment and the adherence to clinical guidelines during the COVID-19 pandemic.

Methods: Retrospective study including critically ill COVID-19 patients who needed medical nutrition treatment (MNT). Collected variables: sex, age, BMI, underlying diseases, type of respiratory support, caloric and protein requirements (25 kcal/kg adjusted body weight (ABW), 1.3 g/kg ABW/day), total calories (propofol), proteins administered at day 4th and 7th ICU admission, percentage of estimated calories and protein delivered at day 4th and 7th. Day of starting EN and PN. Adherence to ESPEN clinical guidelines (70% estimated calories at day 4th and 7th, 100% estimated protein progressively in the first week, start EN in the 48h and PN in 3rd-7th day ICU admission). Variables: percentage and mean±SD.

Results: One hundred and thirty-nine patients were included (74.8% men), 59.6±13.8 years, BMI 29.9±5.3 kg/m². Comorbidities: 52.3% overweight, 38.6% obesity, 47.5% hypertension, 43.9% dyslipidaemia, 18.7% diabetes. 82.7% required mechanical ventilation (90.4% of them with pronation), 3.6% ECMO. Estimated caloric and protein requirements: 1773±252 kcal and 91.7±17 g. Table 1 presents delivered and % of delivered/estimated caloric and protein goal at day 4th and 7th, and adherence to ESPEN guidelines. PN was started at day 2.5±2.6 and EN at day 6±4.9 of admission (delayed in patients that needed pronation p<0.05). Only 16.6% of patients started EN in the 48h, and 38.5% started PN in the 3rd-7th day of admission.

Table 1.	Calories (kcal)% caloric goal	Protein (g)% protein goal	Adherence to ESPEN guidelines (calories)	Adherence to ESPEN guidelines (protein)
ICU:4 th day	1282±61474.2±35.2	60±3166.8±34.9	28.3%	24.4%
ICU:7 th day	1351±68877.7±39.5	67.8±3774.4±40.2	24.4%	28.1%

Conclusion: Only around one third of our patients received caloric and protein requirements according to ESPEN guidelines. In the rest of patients, both under and overfeeding were present. During this pandemic PN was used before EN in our centre, and it was associated with the pronation of the patients during the first week of ICU admission.

References: Clinical Nutrition 38 (2019) 48–79

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LB-121

LONGITUDINAL EVOLUTION OF NUTRITIONAL STATUS, AND MARKERS OF KIDNEY AND LIVER FUNCTION IN FINNISH ADULTS WITH INTESTINAL FAILURE

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