Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

protein intake, post-stroke infection development, mechanical ventilation need, clinical severity scores including NIHSS, NUTRIC, SOFA and APACHE were determined. Muscle cross sectional areas (CSA) were measured with Image-J and percentage changes were calculated. More than 10% CSA reduction was considered as a muscle mass loss (MML) criterion.
Results: Of 104 patients completed the 2-week study period, significant MML was detected in 73% of arms, 49% of thigh muscles, 47% of psoas in paralyzed side, 46% in arms, 48% in thighs and 42% in psoas in non-paralytic side. Significant CSA decrease was detected in 22% of abdominal wall and 40% of paraspinal muscles. Average daily calorie and protein deficit showed strong positive correlation with arm muscle CSA decrease on both sides ($p<0.05$). While thigh muscle CSA decrease and protein/calorie deficit failed to show a significant correlation, calorie deficit was correlated significantly with CSA decrease of abdominal wall and paralytic side psoas muscles, protein deficit with abdominal wall muscle loss ($p <0.05$). In multivariate analysis, infections, intubation, sepsis, DM, APACHE and NUTRIC scores were defined as significant determinants of MML. Features of lower extremity myoedema and overall feasibility of muscle CT were determined.
Conclusion: MASS-TR demonstrated objective muscle mass loss in most of the acute severe ischemic strokes. This is more pronounced on the upper limb and ipsilateral side, but appears to be generalized. The most likely compensatory variable for this loss is the prevention of calorie and protein deficiencies in tube feeding.
Disclosure of Interest: None declared

P172

EATING DESIRE AND EXPERIENCES OF THIRST, HUNGER, NAUSEA AND PAIN IN TRACHEOST-OMIZED ICU PATIENTS, AN EXPLORATIVE STUDY

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Rationale: Critically ill tracheotomized patients are prone to experience loss of appetite, thirst, nausea, dysphagia and aspiration during recovery. These symptoms (or adverse events) all contribute to increased risk of malnutrition, thus ensuring adequate nutritional intake is important. The aim of this study was to explore eating desire, ability to swallow and experience of thirst, hunger, nausea as well as pain in ICU tracheostomized patients.
Methods: This was an explorative study including 30 tracheostomized patients. A questionnaire design was used to report the patients' desire to eat and degree of thirst, hunger, nausea, pain using either a four-point categorical scale (None, little, moderate, very) with visual figures or a numeric rating scale (None/very). Ability to swallow was assessed using The Facial-Oral Tract Therapy Swallowing Assessment of Saliva combined with the Modified Evan's Blue Dye test.
Results: A total of 27 patients experienced a desire to eat, 30 patients felt thirsty, 18 patients felt hunger, 10 patients experienced nausea and 21 patients felt pain. Additionally, three patients were unable to swallow, nine patients were able to swallow modified texture and 18 patients had normal swallowing function.
Conclusion: The study found that the majority of tracheostomized ICU patients had sensory needs for food and drink intake (desire to eat, thirst and hunger) despite also having feelings of nausea and pain. Further, the clinical assessment of swallowing ability indicates that oral intake was possible for 27 out of 30 patients. The study Results indicate that tracheostomized patients may have unfulfilled needs for oral food and drink intake. This should be further investigated in larger populations and addressed through feasible interventions in clinical practice.
Disclosure of Interest: None declared

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FEASIBILITY OF ACHIEVING DIFFERENT PROTEIN TARGETS USING A HIGH-PROTEIN ENTERAL FORMULA IN CRITICALLY ILL PATIENTS

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Rationale: Combining energy and protein targets during the acute phase of critical illness is challenging. Energy should be provided progressively to reach targets while avoiding overfeeding and ensuring sufficient protein provision. This prospective study evaluated the feasibility of achieving protein targets guided by 24-hour urinary nitrogen excretion while avoiding overfeeding when administering a high protein-to-energy ratio enteral nutrition (EN) formula.
Methods: Critically ill adult mechanically ventilated patients with an APACHE II score > 15, SOFA > 4 and without gastrointestinal dysfunction received EN with moderate calorie content for 7 days. Protein need, determined by 24-h urinary nitrogen excretion, was targeted at $\leq$ 1.2 g/kg (Group A, N=10) or 1.5 g/kg (Group B, N=22). Variables assessed included nitrogen intake, excretion, balance; resting energy expenditure (REE); phase angle (PhA); gastrointestinal tolerance of EN.
Results: Demographic characteristics of groups were similar. Protein target was achieved using urinary nitrogen excretion measurements. Nitrogen balance worsened in Group A but improved in Group B. Daily protein and calorie intake and balance were significantly increased in Group B compared to Group A. REE was correlated to PhA measurements. Gastric tolerance of EN was good.
Conclusion: Achieving the protein target using urinary nitrogen loss was feasible in this hypercatabolic population. Reaching a higher protein target was associated with improved nitrogen balance and a better energy intake without overfeeding. PhA appears to be related to REE and may reflect metabolism level, suggestive of a new phenotype for nutritional status.
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P174

APPLYING LEARNING FROM 1ST TO THE 3RD WAVE OF THE COVID19 PANDEMIC: NUTRITIONAL PROVISION IN CRITICAL CARE

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Rationale: The aim of this analysis was to compare route and adequacy of nutrition support in patients with COVID19 admitted to an intensive care unit (ICU) between March-June 2020 (T1) compared to January-April 2021 (T2).
Methods: Parameters related to nutrition support were collected from the records of all patients admitted to ICU with COVID19 with length of stay of $\geq$7days on mechanical ventilation requiring artificial nutrition support. Data was collected during the late acute phase which was defined as day 4-7 post intubation. Energy and protein intake was compared to calculated estimated nutritional requirements.
Results: 35 patients met the inclusion criteria in T1, 94% were on enteral nutrition (EN), 3% parenteral nutrition (PN) and 3% EN+PN. In T2, there were 54 patients (92% EN, 2% PN and 6% EN+PN).
Of patients who achieved <70% of energy and protein requirements in T1 (n=17) 35% had constipation or ileus and 47% had GI intolerance (high gastric residual volumes or vomiting). In T2 (n=19), 84% experienced constipation or ileus and 63% had GI intolerance. 35% of patients in T1 had hypernatraemia vs. 47% in T2 and 41% in T1 had hyperglycaemia vs. 100% in T2 despite only 12% and 32% of patients respectively having a history of diabetes.

	March – June 2020 (N=35)	January – April 2021 (N=54)	P value
Energy (% requirements met)	85 (24)	96 (23.0)	0.022
Protein (% requirements met)	68 (28)	79 (26.1)	0.076

Conclusion: Despite a higher incidence of GI intolerance in T2, a statistically significant improvement in energy targets was noted. There was a clinically significant trend in protein intake which may be attributed to prompt initiation of modular protein supplements or perhaps an earlier

transition from fat-based sedation. Meeting protein requirements while preventing overfeeding remains a challenge in the ICU.
Disclosure of Interest: None declared.

P175

THE PROGNOSTIC VALUE OF MODIFIED NUTRIC SCORE FOR PATIENTS IN CARDIOTHORACIC SURGERY RECOVERY UNIT: A RETROSPECTIVE COHORT STUDY

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Rationale: Malnutrition is highly prevalent in critically ill patients. Heyland and his colleagues introduced the modified Nutrition Risk in the Critically ill (mNUTRIC) score to evaluate the nutritional risk of patients in intensive care unit (ICU). It was reported that mNUTRIC score was a predictive factor of mortality for patients in medical or mixed ICU, whereas the relationship between mNUTRIC and prognosis of patients in cardiothoracic surgery recovery unit (CSRU) is unclear and related researches are limited.
Methods: We conducted this retrospective cohort study to explore the value of mNUTRIC score in CSRU patients. We identified totally 4,059 patients from the Multiparameter Intelligent Monitoring in Intensive Care III (MIMIC III) database.
Results: The optimal cut-off value of mNUTRIC score was 4, and a total of 1,498 (36.9%) patients were considered at high nutritional risk (mNUTRIC $\geq$4). A multivariate logistic regression model indicated that patients at high nutritional risk have higher hospital mortality compared with those at low nutritional risk (OR=2.49, 95% CI: 1.32-4.70, p=0.005). Further, a Cox regression model was established adjusted for age, white blood cell (WBC), and body mass index (BMI). The Kaplan Meier curve indicated that patients at high nutritional risk have poorer 365-days (HR=1.76, 95% CI: 1.30-2.37, p<0.001)) and 1000-days (HR=2.30, 95% CI: 1.87-2.83, p<0.001) overall survival.
Conclusion: The mNUTRIC score could not only predict hospital mortality but also be an independent prognostic factor for long-term survival in CSRU patients. More well-designed clinical trials are needed to verify and update our findings.
Disclosure of Interest: None declared.

P176

SERUM SELENIUM STATUS AMONG CRITICALLY ILL SURGICAL PEDIATRIC PATIENTS

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Rationale: Selenium plays a pivotal role in the endogenous antioxidant defense mechanism and inflammatory pathways. Previous studies reported that most of critically ill children have low serum selenium levels upon the pediatric intensive care unit (PICU) admission time. Decreased serum levels of selenium were associated with increased incidence of multiple organ failure and deteriorated clinical outcomes. There is an obvious lack of evidence investigating the acute changes of serum selenium concentrations following acute stress.
Methods: This prospective cross-sectional study was carried out at the PICU of Akbar pediatrics hospital in Mashhad-Iran in 2019. A total of 65 children who were candidate for major gastrointestinal surgeries and PICU admission following their surgeries were enrolled. Serum selenium concentration was measured in pre and post stages of the surgical controlled stress.
Results: The median concentrations of pre and post-operative (day -1, +1) serum selenium in the studied patients were 38.49 and 38.9 ng/mL, respectively (P-value >0.05). Only 21.5% and 18.4 % of participants (N=14,12) had optimal concentrations of selenium (>50 ng/mL) before and after the surgery induced acute stress, respectively (P-value >0.05).

Variables	Before surgery sate (N= 65)	Post-operation state (N= 65)	P-value
Serum selenium concentration; Median value	38.49	38.9	0.1
Optimal concentrations of selenium; number (percent)	14 (21.5)	12 (18.4)	0.2

Conclusion: According to the findings of the present study and the Results of previous studies in Iran, selenium deficiency prior to the acute stress may be a major problem. Screening for the potential selenium deficiency prior to the major surgeries may be beneficial to improve the antioxidant defense system function as well as clinical outcomes in surgical critically ill children.
Disclosure of Interest: None declared

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FEEDING CRITICAL CARE PATIENTS: CAN INDIRECT CALORIMETRY HELP?

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Rationale: Recent guidelines support the use of indirect calorimetry (IC) to monitor and plan nutritional therapy in critical care patients. We aimed to: 1) compare energy requirements (ER) assessed through IC with those estimated using standard formulas; 2) compare estimated protein requirements (1,3 gr/Kg) with protein intake through artificial nutrition.
Methods: We conducted an observational study comprising 33 IC tests in a non-random sample of adult patients in an intensive care unit (ICU), selected on account of their eligibility for IC assessment, as proposed by the manufacturer of the Q-NRG+ CI device that was used. ER were measured by IC and estimated using patients' adjusted weight (AW) as follows: up to 3 days in ICU, ER=0.7x20KcalxAW; 4 to7 days in ICU, ER=0.7x25KcalxAW; 8 or more days in ICU, ER=25KcalxAW. Patients were classified according to length of ICU stay: 2 days – early acute stage; 3–7 days – late acute stage; $\geq$8 days – rehabilitation stage.
Results: When IC was used, 12 patients were in early acute stage (Group A), 8 patients were in late acute stage (Group B), and 13 patients were in the rehabilitation stage (Group C).
We found statistically significant differences (p<0.05) in ER using standard formulas and ER assessed by IC in all groups of patients. When compared with IC, standard formulas underestimated ER, on average, by 486$\pm$322Kcal in group A (p<0.001) and by 335$\pm$360.1Kcal in group B (p<0.001). In group C, mean underestimation was 116$\pm$496.8Kcal, but differences between the two methods were not statistically significant (p=0.418).
Regarding protein, estimation also resulted in significantly higher (p<0.001) requirements than the quantity that was able to be provided to patients. According to estimation, protein intake should have been higher, on average, by 86.3g (SD=27) in group A, by 43.7g (SD=40.4) in group B, and by 42.4g (SD=22.26) in group C. All intra-group differences between estimation and protein provided were statistically significant (p<0.001 for groups A and C; p=0.018 for group B).
Conclusion: According to our data, ER are significantly different according to the method used for estimation in early stage of illness during ICU stay. Although further studies are needed, strategies do improve nutritional support must be developed and IC can be a useful tool for monitoring ICU patients.
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