Currently, COVID-19, caused by the new severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), represents a threat to global public health. Infected patients are at risk of developing acute respiratory distress syndrome. Reports indicate that 5% to 10% of the infected population will require admission to an intensive care unit (ICU) and invasive mechanical ventilation.1 Due to inability of patients in this condition to be orally fed, nutritional therapy should be considered a component of comprehensive treatment of this emerging disease.

An important proportion of the SARS-CoV-2-infected population has overweight or obesity; a body mass index > 28 kg/m² has been reported to be a risk factor for disease severity (odds ratio = 5.872, 95% CI = 1.595-21.621, p = 0.008).2 However, the presence of overweight or obesity does not justify the prescription of fasting in critically ill patients, since in other clinical conditions, up to 60% of patients with obesity admitted to the ICU have been documented to have malnutrition,3 which is why nutritional therapy should be optimized in order to prevent deterioration or improve nutritional status. Regardless of the body mass index, malnutrition in the critically ill patient is a serious problem, given that it is associated with an increased risk of infections, incidence of pressure ulcers, increased hospital costs and higher mortality.4,5

Critical disease evolves in two phases: acute phase (catabolism) and post-acute phase (anabolism). In turn, the acute phase is divided in two periods: an early period (one or two days), characterized by metabolic instability and a severe increase in catabolism; and late period (three to seven days), defined by significant muscle wasting and stabilization of metabolic alterations. In the post-acute phase, the patient can improve, rehabilitate or remain in a persistent catabolic/inflammatory state and prolonged hospitalization.6

Critically ill patients are in a state of catabolic stress and inadequate ingestion, which predisposes them to malnutrition.7 Critically ill patients whose ICU stay is longer than 48 hours should be considered at risk of malnutrition, which is why they should be prescribed medical nutritional therapy, defined by the European Society for Clinical Nutrition and Metabolism (ESPEN) as the provision of nutrients by oral, enteral (enteral nutrition, EN) or parenteral route (parenteral nutrition, PN).6

There are no specific data on nutritional interventions in patients with COVID-19 and their impact on clinical outcome. Table 1 mentions the recommendations of the COVID-19 patient nutritional management guidelines, recently issued by the British Dietetic Association8 and ESPEN,9 which include suggestions from ESPEN,6 the American Society of Parenteral and Enteral Nutrition10 and the German Society for Nutritional Medicine11 for the critically ill patient, and which can be modified according to the evolution of knowledge and the epidemic.

Medical nutritional therapy will depend on the clinical condition and degree of malnutrition of the patient. Starting EN within the first 48 hours of ICU stay is suggested,6 due to its benefits on gastric mucosa, synthesis of hormones and enzymes, and immune
response regulation. Should there be any contraindication for EN, PN should be established at between three and seven days. The use of early and progressive PN should be considered in severely malnourished subjects, with contraindication for or intolerance to EN.

Nutritional intake should be gradually increased: within the first three days, providing 70% of energy requirements is suggested, and then increase until reaching 80 to 100%. Protein intake should be 1.3 g/kg/day. If during the first week covering all patient energy and protein requirements is not possible with EN, PN initiation should be evaluated in an individualized manner.

Even when international guidelines suggest the incorporation of nutrition protocols in ICUs, several studies have reported that knowledge, training and time for prescribing medical nutritional therapy are insufficient in the medical and nursing team. Due to the above, the American Society of Parenteral and Enteral Nutrition suggests considering nutrition as a therapeutic process in the management of critically ill patients and incorporating a clinical nutritionist, which is the professional in charge of prescribing, implementing and monitoring this intervention, into the ICU.

The COVID-19 pandemic continues to spread in Latin America, which increases the burden for public and private health systems. The care of patients with...
this disease is not only concentrated in ICUs, it also takes place in other hospitalization areas. Therefore, knowing the implications of medical nutritional therapy and current nutritional recommendations will optimize COVID-19 treatment and evolution in patients.

References