Abstract

The body composition and energy expenditure are modified with the age. An increase in body fat and a decrease up to 40% in lean muscle mass are observed at the age of 80 years. Accompanying this muscle mass depletion, there is a muscular power decrease caused by a selective loss of certain muscle fibers. This muscle mass loss may be secondary to a deficient intake of high-quality proteins (high biological value), a situation that is very common in the elderly. The daily energy expenditure decreases with age up to 20% approximately, this decrease being related with the decrement of lean muscle mass and, thus, lower physical activity. In postinjury and/or acute disease conditions, the increase in oxygen consumption and energy expenditure is approximately 20-25% less in patients older than 65 years, as compared with younger patients. These changes in the body composition and energy expenditure have important implications regarding the nutritional support since, given the muscle mass loss, the elderly will develop more rapidly protein-energy malnourishment in case of severe acute illness or a surgical procedure. Specialized nutritional support should be implemented early (first 24-36 hours postadmission at the Intensive Care Medicine Department), by the enteral, parenteral or mixed routes. The elderly may, however, present with hyperglycemia (stress-associated and iatrogenic), fatty liver, refeeding syndrome, and excessive CO₂ production if overfed given the lower body mass and decreased energy expenditure.

Keywords

Elderly, ICU, Intensive care medicine, Specialized nutritional support.