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DIPARTIMENTO DI SCIENZE VETERINARIE PER LA SALUTE, LA PRODUZIONE ANIMALE E LA SICUREZZA ALIMENTARE

Branched-Chain Amino Acids

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ABSTRACT

Our study is focused on evaluation and use of the most effective and correct nutrients. In particular, our attention is directed to the role of certain amino acids in cachectic patients.

During parenteral nutrition in humans, physician already associates in the PN-bags different formulations including amino acids, lipids and glucose solutions or essential amino acids solution alone or exclusively branched-chain amino acids (BCAA). Studies investigated the effects of dietary BCAA ingestion on different diseases and conditions such as obesity and metabolic disorders, liver disease, muscle atrophy, cancer, impaired immunity or injuries (surgery, trauma, burns, and sepsis). BCAAs have been shown to affect gene expression, protein metabolism, apoptosis and regeneration of hepatocytes, and insulin resistance. They have also been shown to inhibit the proliferation of liver cancer cells in vitro, and are essential for lymphocyte proliferation and dendritic cell maturation. Oral or parenteral administration of these three amino acids will allow us to evaluate the real efficacy of these compounds during a therapy to treat malnutrition in subjects unable to feed themselves.

REFERENCES

Rajkumar Rajendram, Victor R. Preedy, Vinood B. Patel, Branched Chain Amino Acids in Clinical Nutrition, New York, Humana Press, 2015.