

Immunonutrition: No Proven Benefit



There have been many questions surrounding the use of immune-modulating nutrients as to whether specific critically ill populations may benefit from it; whether the administration of multiple potential immunologic modulating agents would alter the individual effects of each agent; or whether enteral and parenteral administration may result in differential effects.

While it is believed that immunonutrition may modulate the body's inflammatory response to injury and infection and may improve clinical outcomes, there is very limited data to support this premise. There is also a lack of consensus with respect to the guidelines related to the enteral administration of immune-modulating nutrients.

According to a new study published in JAMA, patients who received high-protein nutrition via a feeding tube enriched with immune-modulating nutrients versus standard high-protein nutrition did not demonstrate any significant difference in the incidence of new complications. It was in fact observed that high-protein nutrition may actually be harmful and may increase the risk of death at six months.

Immune-modulating nutrients such as glutamine, omega-3 fatty acids and antioxidants are perceived to be associated with a reduction in illness from infection and are also believed to facilitate recovery for critical illness as compared to standard enteral nutrition. However, the results of this latest study conducted by Arthur R.H. van Zanten, MD, PhD., of the Gelderse Vallei Hospital, Ede, the Netherlands and his colleagues do not support these beliefs. The study was conducted with 301 adult ICU patients (from 14 ICUs in the Netherlands, Germany, France and Belgium) who were expected to be ventilated and were to receive enteral nutrition for more than 72 hours to either immune-modulating nutrients (IMHP) or high-protein enteral nutrition (HP). The study participants were followed up for six months.

The findings of the study showed that there was no significant difference in the incidences of new infections between the two groups. 53% of participants in the IMHP group developed infections as compared to 52% in the HP group. There was also no significant difference in other outcomes such as mechanical ventilation duration, ICU, length of hospital stay and organ failure. However, the six month mortality rate was much higher in the IMHP group (at 54%) as compared to the HP group (at 35%).

The findings of this study do not show any support for the use of high-protein enteral nutrition enriched with immune-modulating nutrients. There is no doubt that the use of immunomodulating nutrition should be explored further. Studies to date do show that they may cause more harm than benefit and highlight the need to be cautious before its routine prescription for critically ill patients.

[Source: JAMA](#)

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