



Intravenous Immunonutrition: It is Time for Endodermal Protection (Gut and Lung Prophylaxis)

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Article ID: WMC001972

Article Type: My opinion

Submitted on:09-Jun-2011, 06:32:21 PM GMT **Published on:** 10-Jun-2011, 08:01:59 PM GMT

Article URL: http://www.webmedcentral.com/article_view/1972

Subject Categories:CRITICAL CARE

Keywords:Immunonutrition, Endodermal Protection, Gut Prophylaxis, Lung Prophylaxis, Immunoprophylaxis, Intravenous Glutamine

How to cite the article:Gupta D , Lenten S D, Orlewicz M . Intravenous Immunonutrition: It is Time for Endodermal Protection (Gut and Lung Prophylaxis) . WebmedCentral CRITICAL CARE 2011;2(6):WMC001972

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My opinion

There is a constant debate [1-3] related to the utility of immunonutrition (enteral and parenteral) and the abundance of data to endorse or refute the claims of the immunonutrition. The authors want to present an alternative perspective. Firstly, the term 'immunonutrition' is misread because the clinicians stress its nutritive value over its contribution to immunity; this can be easily undone with rephrasing the term as 'immunoprophylaxis' to initiate its consideration in the lines of stress ulcer prophylaxis and deep vein thrombosis prophylaxis. Secondly, the medical community is concerned whether a critically ill patient needs this form of prophylaxis. Stress ulcers and deep vein thrombosis pose immediate threat to the life of the bedridden patients under the stress of critical illness. However, the endodermal structures (gastrointestinal villi and pulmonary alveoli) weakened by the endogenous insults (critical illness, infection, hemodynamic instability, paralytic ileus and catabolism) and the exogenous insults (mechanical ventilation, operative trauma, operator's handling and starvation) need blanket strengthening in the form of 'immunonutrition' till the patient's bodily functions transition to convalescent phase. Thirdly, the blanket parenteral immunoprophylaxis (BPIP) with seven-day-intravenous-glutamine-protocol (similar to as used by Gatt and MacFie [4] in one of their research study) for endodermal protection will clear the cloud of uncertainty over the route and timing of 'immunonutrition'. Except for the patients who are expected to tolerate enteral nutrition at goals in the first 24-48 hrs of their admissions to intensive care units, every critically ill patient will meet the criteria for BPIP because the severity of the ongoing patho-physiological insults to the endodermal structures cannot be predictably quantified and avoided. BPIP will ensure the vascular delivery of the immunonutrients at the endodermal sites as against the unpredictable peristaltic activity-based delivery of the enteral immunonutrients especially in the first week or so after the major operative trauma. This will buy more time for the patient's body to recover from the primary critical illness and to resist the autolytic

actions of the inflammatory mediators released by the weak-endodermal tissues. Without BPIP, there is the certainty of unanticipated deterioration in some otherwise stable patients in whom the window for effective immunoprophylaxis is lost. Fourthly, it cannot be quantified with certainty whether BPIP will do more harm than good of delaying bacterial translocation, sepsis, and acute lung injury/acute respiratory distress syndrome. However, the evidence endorsing or refuting BPIP can always be collected as part of Phase III/IV trial without any further delay in the advantages incurred for the critically ill patient population. Finally, the costs for BPIP (intravenous glutamine @ 700 USD per week) will only need three-to-four and half patients to treat to save a 2000-3000 USD per day stay in intensive care unit. The authors are confident that the Phase IV evidence of the costs saved (in terms of morbidity-mortality) by BPIP will be much more than abovementioned numbers or the costs saved by stress ulcer prophylaxis [5]. In summary, it is time [6] and we as the community of intensivists should endorse the virtual Phase III/IV trial of BPIP to protect the endodermal structures from getting harmed and in turn harming the body.

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