

Presidential Address

Surgical nutrition--Where should we go?

Akira Okada, M. D.

Department of Pediatric Surgery, Osaka University Graduate School of Medicine, Suita, Osaka, Japan

The difficulty of administering enough nutrients to patients with postoperative sequelae who cannot eat or who cannot eat enough has long been experienced by many surgeons, since on-going protein malnutrition rapidly promotes delayed wound healing, increases susceptibility to infection and results in high morbidity and mortality rate. In the late 1960's, hypertonic nutrient solution was first infused through a central venous catheter and life support by administering enough nutrients exclusively from vein became reality. Thus, a breakthrough occurred with the advent of total parenteral nutrition (TPN) which has brought a great impact in various critical illness, such as external gastrointestinal fistulas, inflammatory bowel disease, massive bowel resection (short bowel syndrome), stress ulcer, pancreatitis (acute or chronic) and various consuming diarrheal diseases. However, at that time, the clinical benefit of TPN was not consistent and furthermore, there were always concerns about the risk of complications and side effects. The following aggressive basic and clinical studies by various surgical investigators settled the standard for routine IV infusion system and appropriate nutrients component. And then, steady and safe TPN management system has been established. Along with the progress in TPN and the following advancement of enteral nutrition, objective assessment of nutritional status has come to the forefront in the management of malnourished patients. Various nutritional parameters have been proposed, and their validity has been verified. The importance of consideration of disease and organ specificity in various morbid conditions necessitated a number of different amino acid formulas which resulted in improvement of certain disease states, i.e., hepatic failure, renal failure, post-stress state, pediatric (immature) status, and intestinal failure. Anti-cancer formula still remains a challenging issue. One of the areas of great interest shedding new light is TPN-induced atrophy of the intestinal mucosa. It is demonstrated that bacterial translocation through the breakdown of intestinal mucosal barrier consequently induces organ dysfunctions and/or systemic infection. Furthermore, cytokines originated from intestinal mucosa in various pathologic conditions have been demonstrated to induce local or remote organ injury. Recent advances in medical technology made it possible to apply various growth factors as their recombinant form, i.e., growth hormone, insulin-like growth factor, epidermal growth factor, glucagon-like peptide-2, etc. in recombinant form. And, studies on its clinical effect in enhancing gut growth and proliferation, and suppressing bacterial translocation is ongoing. The concept of immunonutrition is becoming a coming issue of interest. And as its basal mechanisms, nutrient-gene interactions are said to play an important role in cancer protective effects of phytochemicals and anti-inflammatory and immune modulating effects of omega-3 fatty acids.

Finally, it can be stressed that, among various medical specialties, surgeons have made a significant contribution in the area of nutrition support. And, in the future, they still play a major role in nutrition support of critically ill while it maintains technical skills as well as knowledge of metabolism/nutrition as far as modern medical practice continues to develop.

Professor Vichai Tanphaichitr Memorial Oration

“Professor Vichai Tanphaichitr and His Works”

Dr. Prasong Tienboon

Division of Nutrition, Department of Pediatrics

Faculty of Medicine, Chiang Mai University Hospital

Chiang Mai, Thailand

Professor Vichai Tanphaichitr (1940-2000), who deceased on the 29th November, 2000, was one of the outstanding nutrition scientists, physicians and clinical nutritionists. He developed extensive personal and professional linkages throughout the Asia Pacific region, which were reflected in his leadership roles including the Presidency of the APCNS and co-editor of the APJCN.

It is a deep sorrow to lose such an outstanding man of character for all of us. He will be remembered with great affection by his many colleagues, friends and students.