Nutritional support

Patients with severe craniocerebral injury (SCI) usually need nutritional support during treatment and recovery periods. The expense for long-term parenteral nutrition is high and rather might increase the risk of infection caused by intestinal dysbacteriosis. For long-term nasal-feeding nutrition, some complications such as aspiration pneumonia should not be neglected [1) 2)].

Nutritional support is highly recommended for reducing the risk of nosocomial infections, such as pneumonitis, in patients with severe traumatic brain injury (TBI).

Comatose acute stroke patients are at high risk of malnutrition, especially hypoproteinemia. However, when to start and how to provide nutrition to these patients are unclear.

Percutaneous endoscopic gastrostomy (PEG) is an effective method for severe craniocerebral injury patients. It can not only provide enteral nutrition but also prevent pulmonary infection induced by esophageal reflux [3)]

It is nutritionally disadvantageous not to start nutritional support within 3 days after admission in comatose acute stroke patients. However, starting enteral nutrition (EN) too early is not nutritionally beneficial, and total parenteral nutrition (TPN) with 20% glucose fed through a tube is recommended as adequate nutrition for these patients. However, TPN should not be employed for longer than 10 days, because switching to EN after this period contributes to better nutritional recovery than continuing TPN [4)].

The limited evidence suggests that small bowel feeding in patients with severe TBI is associated with a risk of pneumonia that is lower than that with gastric feeding. From this result, Wang et al. recommend the use of small intestinal feeding to reduce the incidence of pneumonitis in patients with severe TBI [5)].

see http://www.ncbi.nlm.nih.gov/books/NBK49269/

1)
Akkersdijk WL, Roukema JA, van der Werken C. Percutaneous endoscopic gastrostomy for patients with severe cerebral injury [J]. Injury 1998;29(1):11-4.
2)
Roberts PR. Nutrition in the head-injured patient [J]. New Horiz 1995;3(3):506-17.
3)
Tian Y, Du HG, Fan CP, Wang C, Zhang GJ, Chen L, Li HY. Clinical significance of percutaneous endoscopic gastrostomy for patients with severe craniocerebral injury. Chin J Traumatol. 2014;17(6):341-4. PubMed PMID: 25471430.
4)
Yamada SM. Too Early Initiation of Enteral Nutrition is Not Nutritionally Advantageous for Comatose Acute Stroke Patients. J Nippon Med Sch. 2015;82(4):186-92. doi: 10.1272/jnms.82.186. PubMed PMID: 26328795.
5)
Wang D, Zheng SQ, Chen XC, Jiang SW, Chen HB. Comparisons between small intestinal and gastric feeding in severe traumatic brain injury: a systematic review and meta-analysis of randomized controlled trials. J Neurosurg. 2015 May 29:1-8. [Epub ahead of print] PubMed PMID: 26024007.