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A Study on comparison of taurine content in enteral solutions and estimated daily taurine intake of patients receiving long-term enteral nutrition between Korea and china

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It is well-known that marginal taurine intake of patients receiving long term enteral nutrition could result in taurine deficiency. Some studies described critically ill patients were shown to have significantly lower serum taurine concentrations after 1 wk of parenteral nutrition than age-and-sex matched health control subjects. Although taurine (2-aminoethane sulfonic acid) has been considered a nonessential amino acid for human being, questions of the capacity of adults to effectively biosynthesize taurine has been raised by studies demonstrating taurine depletion in plasma and blood cells of patients receiving long-term parenteral nutrition. Tube feeding can often meet the nutrients needs of patients who has trouble to ingest what they need. However, studies on taurine content in enteral solutions including blenderized diets and commercial formulas has not been performed. This study, therefore, was undertaken to examine the differences of taurine content in enteral solutions and the daily taurine intake of patients receiving long-term enteral nutrition in the hospitals between China and Korea.

The taurine content in enteral solutions, including blenderized diets from 12 general hospitals in Beijing, China and from 8 general hospitals in Seoul, Korea, in addition to 20 current commercial formulas from two countries was examined. The daily taurine intake of patients undergoing long-term enteral nutrition in the hospitals was calculated based on the amount of enteral solution intake obtained from the average of standard dietary record and the taurine content in the analyzed enteral solution samples.

Taurine content in blenderized diets for enteral nutrition from 12 hospitals and 8 commercial formulas in China were 12.9±19.8 mg/L, 0.60±1.2 mg/L, respectively. In Korean products from 8 hospitals were 7.6±6.2 mg/L, and nothing has been detected in 12 commercial formulas. The daily taurine intake of patient using blenderized diets for enteral nutrition in hospitals were 20.3 ± 9.6 mg/2,000 kcal/day, 25.9 ± 39.5 mg/2,000 kcal/day in Korea and China, respectively. Based on this study, we concluded that it is necessary not only to add taurine into blenderized diets in hospitals and commercial formulas but also to supply taurine to patients undergoing long-term enteral nutrition for their needs.