

## C675306 : MAJOR FOOD CHEMISTRY

KEY WORD: ENTERAL NUTRITION / SERUM COPPER / SERUM ZINC / TOTAL PARENTERAL NUTRITION

JONGKOLNEE PIMPTON, FLT. LT. : SERUM ZINC AND COPPER CONCENTRATION IN NORMAL SUBJECTS AND PATIENTS IN BHUMIBOL ADULYADEJ HOSPITAL.

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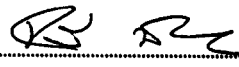
Zinc and copper are essential trace elements. This study determined serum zinc and copper levels in 100 healthy adults, in 19 patients receiving enteral nutrition (blenderized formular) and in 8 patients receiving total parenteral nutrition (TPN). Serum zinc and copper concentration were determined by atomic absorption spectrophotometry (AAS). It was found that serum zinc and copper levels in healthy adults were  $93.93 \pm 10.56$  and  $104.59 \pm 14.54$   $\mu\text{g/dL}$ , respectively. Before receiving enteral nutrition serum zinc and copper levels in patients were  $80.46 \pm 13.34$  and  $98.78 \pm 17.07$   $\mu\text{g/dL}$ . Seven days after receiving the enteral nutrition, their levels were  $85.78 \pm 15.26$  and  $107.67 \pm 15.70$   $\mu\text{g/dL}$ , respectively. Before receiving TPN, serum zinc and copper levels in patients were  $89.17 \pm 10.72$  and  $95.86 \pm 17.49$   $\mu\text{g/dL}$ , respectively. After 7 days of the TPN, serum zinc and copper levels were  $96.87 \pm 12.64$  and  $100.83 \pm 14.91$   $\mu\text{g/dL}$ , respectively.

The study showed that serum zinc levels increased significantly in patients receiving enteral nutrition ( $p < 0.05$ ) but serum copper concentration was not change significantly compared with pretreatment. Serum zinc and copper increased significantly in patients receiving TPN ( $p < 0.05$ ).

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