

Examination of the influence that the semi solidity nutritional supplement that gelling agents are different gives for the absorption of the trace element from digestive organs

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Abstract

[Aim] With the expanding use of enteral nutrition, aspiration pneumonia due to gastroesophageal reflux is an increasing concern in patients receiving tube feeding. To avoid this complication, partially solidified enteral nutrition formulations are used in hospital and home based care. However, examination about nutritive absorptivity by a difference of properties of matter is hardly done. We investigated the influence that partially solidified gave absorptivity of trace element.

[Method] In the present study, the index of absorption of trace element (Fe, Cu, Zn) in the rat that had given a different semi solid nourishment medicine was examined. Various mineral compositions were administered to a male rat of seven weeks after one's birth and semi solid nourishment medicine of three companies with a different having gelatinizer was oral administered respectively for two weeks (5 each crowd). The rat (5) that had similarly given solid fodder for the animal was made a control group. The excrement excreted by the rat after administering the nutritional supplement was gathered, and the density of the trace element included in them was measured by the PIXE method. We measured the trace element value of semi solid each nourishment medicine and the solid fodder inside beforehand, and calculated the intake of the trace element based on these. The amount of the gut absorption subtracted the amount excreted from the intake in excrement and was calculated. We made comparative study of three crowds by the index of absorption of which 100% was each intake.

[Result] In the comparison of the apparent digestive organs absorption factor of trace element (Fe, Cu, Zn), the target group lowered in intentionality in comparison with either of the semi solidity nutritional supplement group. The significant difference was not recognized to the apparent digestive organs absorption factor by the difference of the semi solidity nutritional supplement.