

Quantification of essential trace elements by PIXE analysis -about trace element dynamics in nutrition care-

Yoshinori Miura¹⁾, Akinobu Kato²⁾, Kenichiro Ikeda³⁾, Koichiro Sera⁴⁾, Akira Suwabe¹⁾

¹⁾Department of Clinical Pathology, Iwate Medical University
19-1 Uchimaru, Morioka 020-8505, Japan

²⁾First Department of Internal Medicine, Iwate Medical University
19-1 Uchimaru, Morioka 020-8505, Japan

³⁾First Department of Surgery, Iwate Medical University
19-1 Uchimaru, Morioka 020-8505, Japan

⁴⁾Cyclotron Research Center, Iwate Medical University
348-58 Tomegamori, Takizawa 020-0173, Japan

Abstract

In late years importance of nutritional evaluation at a hospital is noted it. Therefore, at many hospitals, NST(Nutrition Support Team) came to operate. In the patient that ingestion is difficult, nutrition disorder by lack of trace element in the hyperalimentation which is main nutrient is presented.

We used PIXE method about serum medium trace element dynamics with about NST interposition about six patients who performed such a nutrition care and reviewed it. As a result, all 25 kinds of elements were detected from the whole serum of these patients. In trace element, 18 kinds of elements were detected. And even the case that showed an abnormal value before NST interposition was distributed over normal range in NST termination about zinc and copper. It was suggested that nutritional management was done adequately by this thing. In addition, there were many examples to come off from normal range, and the level value in NST termination of selenium was recognized.