Vitamin K₁ Content of Human Milk in Various Maternal Nutritional States

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Vitamin K₁ was measured in human milk samples from 43 mothers at 1 month after delivery by high-performance liquid chromatography (HPLC) using a fluorescent detector.

All infants fed by the milk we studied were healthy and achieved good weight gain (40 ± 7; 31–50 g/day). They were administered vitamin K₂ (2 mg orally) prophylactically twice during the early neonatal period. Normotest and latex-PIVKA II were measured at the age of 1 month.

Vitamin K₁ in the milk from mothers who had eaten neither leafy green vegetables nor natto (a traditional Japanese food made from soybeans, rich both in vitamin K₁ and K₂) was significantly lower (p < 0.01) than that in milk from mothers who had eaten leafy green vegetables and/or natto more than twice a week (1.9 ± 1.0 vs. 6.6 ± 2.3 µg/liter). There was a statistically significant correlation between the vitamin K₁ content in milk and the Normotest (r = 0.39; p < 0.01).