

Beriberi

Beriberi, (Beri-beri, Thiamine deficiency) is a medical condition used for **vitamin B1 (thiamine)** deficiency. Thiamine works as a coenzyme of carboxylases which are important for metabolism of glucose and energetical supplement for nerve cells and myocytes. Its sources are peas, soy flour, sprouts, plant seeds, offal and pork.

Bereberi used to be common in areas, where the main food source is rice – east Asia and Japan. Nowadays, beriberi occurs only in few cases that take place in extreme conditions (refugee camps) or in poor reagions of developing countries with high prevalence of having husked/polished/white rice in a diet. Also, in coastal regions, consumption of some species of raw fish and mollusks that contain enzyme thiaminase are adversely affecting.

In clinical practice we differentiate **two main types**.

- **Dry beriberi** is characterized by bilateral polyneuritis (numbness of hands and feet), loss of tendon and periosteal reflexes, paresthesia of limbs and muscle weakness.
- **Wet beriberi** is characterized by swelling. Mainly occurring as swelling of face, lower limbs and ascites. Wet beri beri affects the cardiovascular system resulting in arrhythmia and cardiomyopathy. Patient's death is caused by **cardiac and respiratory failure**.

Infantile beri beri occurs to infants nursed by vitamin B1 deficient mothers. In 2003, 23 infants became sick after being fed breastmilk substitute with lack of vitamin B1. Three of them have died.

In our conditions, **alcoholics** may develop thiamine deficiency, where it can be manifested as **Wernicke Korsakoff's syndrome** or may be secondarily developed, in individuals with gastric cancer.

Note

White rice is on Czech market known as polished. Word “polished” is correspondent to the process of manufacturing, in which process two layers must be removed. Firstly, the top layer of the grain must be removed. Below this layer, there is brown layer containing fiber, minerals and vitamins, including vitamin B1. This layer is by processing removed – polished – and white/polished rice is formed. By removal of this layer, B1 is also removed and not included in white rice. Therefore, by consumption of “unpolished” natural rice – beri beri can be avoided.

Links

Related articles

- Vitamin B₁

Reference

Bibliography

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