



Treatment of Keshan Disease and its Prevention

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Description

Keshan disease is a congestive cardiomyopathy caused by a combination of dietary selenium deficiency and the presence of a mutated strain of Coxsackievirus, named after Keshan County in Heilongjiang Province, north-eastern China, where the symptoms were first reported. These symptoms were later found to be prevalent in a wide belt stretching from northeast to southwest China, all due to selenium-deficient soil. The disease peaked in the 1960s–1970s, killing thousands. The often fatal disease affects children and women of childbearing age, characterized by heart failure and pulmonary edema. For decades, selenium supplementation has reduced this condition. It has been associated with coxsackievirus B. Current research suggests that selenium deficiency results in a more virulent strain of coxsackievirus becoming the dominant virus species present in the virus population, but the mechanism behind this selection event is unclear. Keshan disease can also lead to a higher incidence of cancer, cardiovascular disease, hypertension and stroke. In addition, the individual may suffer from eczema, psoriasis, arthritis, cataracts, alcoholism and infections.

Treatment

The treatment for Keshan disease is selenium supplementation. The recommended amount is fifty-five micrograms of selenium per day for adult men and women, sixty micrograms per day for women during pregnancy, and seventy micrograms per day for women after pregnancy. A doctor may insist that if a man is sexually active, he may need to take up to seventy micrograms of selenium per day. A doctor may also recommend that an individual take vitamin E; selenium and vitamin E are medically linked and appear to work together. The in-

dividual will also be advised to have a diet that includes seafood, meats such as kidney and liver, and some grains and seeds; all are high in selenium. Brewer's yeast and wheat germ contain high levels of selenium. Garlic, onions, mushrooms, broccoli, tomatoes, radishes and Swiss chard can be good sources of selenium if the soil in which they are grown contains it. An individual will need to be monitored once they start taking selenium supplements, as too much can cause baldness, bowel problems, weakness, and slow mental functioning. Individuals in China with this disease treat it with an herb called Astragalus, which accumulates selenium from the soil.

Individuals will most likely be prescribed selenium supplements (in the form of selenomethionine) or injections of this mineral. In addition to dietary supplements, other recommendations for managing Keshan's disease include increasing consumption of selenium-rich foods, avoiding alcohol, monitoring medication side effects, and increasing sleep. Cardiac surgery (implants, stents, or whole heart transplants) may be recommended.

Prevention

It is difficult to consider Keshan disease extremely preventable, since the only way to ensure that an individual is getting enough selenium would be to test the soil in the area. One way to improve your selenium intake is to increase your intake of selenium-rich foods. Examples include Brazil nuts, onions, canned tuna, beef, cod, turkey, chicken breast, fortified pasta, eggs, cottage cheese, oatmeal, white or brown rice, and garlic. If the individual lives in an area that does not have selenium-enriched soil, dietary supplementation should be considered. Blood tests are done to determine whether or not an individual has a selenium deficiency.