Pernicious Anemia

My aunt has recently been diagnosed as having pernicious anemia. What is this problem, and what is the cause?

Pernicious anemia is a condition in which there are inadequate red blood cells. This is because of a deficiency of an essential substance called vitamin B₁₂, or cobalamin. This vitamin compound is very important in the formation of red blood cells. It also plays a vital role in the building of DNA, which is present in all cells. Red blood cells and nerve cells are especially dependent on vitamin B₁₂ in order for them to function normally. As discussed in the November issue of Adventist World, anemia is the condition in which insufficient red blood cells (hemoglobin) exist to carry oxygen to the body for all its needs (energy production, metabolism, and simply staying alive optimally). This places a strain on the heart and many other organs.

In the case of pernicious anemia, associated symptoms and signs of nerve dysfunction are often exhibited. These can include the loss of ability to feel vibration in the limbs and the position of the toes in relation to the feet. This dysfunction usually starts in the legs but then later affects the arms. This is because of spinal cord damage. There may be progression to psychiatric disorders and dementia (loss of ability to think and reason). The tongue is also affected in the advanced stage of the disease and becomes inflamed with a red "beefy" appearance. Ulcers on the tongue may also appear.

Pernicious anemia may be associated with autoimmune diseases such as those that affect the thyroid, adrenal glands, skin, ovaries, or pancreas. Other causes of poor absorption of B₁₂ include stomach and/or bowel surgery, certain cancers, and bacterial infections.

Pernicious anemia is one of a group of anemias called megaloblastic (or large cell) anemias. These anemias may have a variety of causes, including nutritional vitamin B₁₂ deficiency, folic acid deficiency, parasitic infestations, chemotherapy, certain medications, and alcohol.

What is the treatment for this kind of anemia?
Pernicious anemia results from the inability of the body to absorb vitamin B<sub>12</sub> taken in food or any oral form. It is therefore necessary to give vitamin B<sub>12</sub> injections on a regular basis for life. These injections are given into the muscle.

If the anemia is caused by a nutritional lack of B<sub>12</sub> in the diet (and there is no absorption problem from the bowel), adding the appropriate foods and/or vitamin B<sub>12</sub> supplements by mouth is usually sufficient. The treatment needs to be monitored to ensure an adequate response. This is shown by a return of the red cells to their normal size and function.

Pernicious anemia is a disease condition that needs to be diagnosed and treated in good time. When treated appropriately and in time, not only does the anemia reverse but the damage to the nervous and other systems resolves. If the condition is neglected, permanent damage and even death can occur.

What are the sources of vitamin B<sub>12</sub>?

Vitamin B<sub>12</sub> is produced only by microorganisms, and humans receive vitamin B<sub>12</sub> only from the diet. It is present only in foods of animal origin (including milk and eggs). Some claim that vitamin B<sub>12</sub> can be obtained from vegetables; this is from bacterial contamination and manure in which the plants are grown and is both unhygienic and insufficient. Well-planned ovolacto vegetarian diets (plant-based with eggs and dairy products) usually supply adequate amounts of vitamin B<sub>12</sub>. If one chooses to eat a total vegetarian diet, it is essential to supplement the intake of vitamin B<sub>12</sub> in tablet or syrup form. Failure to do so sets one on a sure course for health problems.

The body has stores of vitamin B<sub>12</sub> that last up to four years; it may take 5 to 10 years for the deficiency to show in a clinical form. The message is that the diet must be well planned and, if necessary, supplemental B<sub>12</sub> should be taken.

Allan R. Handysides, M.B., Ch.B., F.R.C.P. (c), is director of the General Conference Health Ministries Department; Peter N. Landless, M.B., B.Ch., M.Med., F.C.P.(SA), F.A.C.C., is ICPA executive director and associate director of Health Ministries.

While this column is provided as a service to our readers, Drs. Landless and Handysides unfortunately cannot enter into personal and private communication with our readers. We recommend that you consult with your personal physician on all matters of your health.