

When thyroid cancer strikes

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Thyroid cancer is the most rapidly increasing cancer in Canada, but diagnosis and treatment are also improving, a London, Ont., specialist says.

Dr. Albert Driedger, director of nuclear medicine and clinical research at London Health Sciences Centre, told a Kitchener Public Library audience that each year there are six per cent more cases diagnosed in women, and four per cent in men.

About 1,700 new cases were diagnosed in 1998, including almost 1,300 in women and 420 in men.

The cause of thyroid cancer is not known, nor is the explanation for its increased incidence.

Driedger said radiation may be one trigger for thyroid cancer. It was common in the first half of the 20th century to irradiate the thymus in newborns because it was thought to prevent sudden death. The practice was abandoned in the 1950s when thyroid cancer appeared in people who received the preventive irradiation.

Rates are also high among people exposed to radioactivity, especially those who were children living near Chernobyl when the nuclear reactor exploded.

HEREDITY A FACTOR

Heredity accounts for six to eight per cent of cases, he said. Spontaneous mutations probably explain the majority of thyroid cancer cases, but unknown factors, like environmental pollution, may also play a role.

Many people wrongly believe thyroid cancer is a "good" cancer, thinking people do not die of it, said Driedger, who is also a professor of nuclear medicine and oncology at the University of Western Ontario.

In fact, in 1998, 134 Canadians died of thyroid cancer -- about eight per cent of people with the disease. About twice as many women as men died.

Thyroid cancer can also reappear or spread long after it has been treated, unlike many cancers that are considered cured after five years without a recurrence.



PETER LEE, RECORD STAFF

Dr. Albert Driedger, an oncologist from London Health Sciences Centre, discussed thyroid cancer and treatment recently at the Kitchener Public Library.

Decades can pass between the first diagnosis and its recurrence, and Driedger has a patient who had thyroid cancer 50 years after the first tumour was treated.

SYMPTOMS

The first warning sign of thyroid cancer is nodules. A person may see or feel a lump on the front of his neck, or a doctor may notice it during a routine physical exam.

But not all lumps are dangerous. "Nodules are common. Developing nodules is the thyroid gland's way of getting old," Driedger said.

By age 50, about 50 per cent of people have nodules, and 70 per cent of 70-year-olds have them.

Nodules are checked for cancer with an ultrasound and needle biopsy, in which a small sample of the gland is removed to see if it contains cancerous cells. A simple blood test will measure the level of thyroid hormone to see how the gland is functioning.

Surgery is done if thyroid cancer is present both to confirm the diagnosis and remove cancerous tissue. Driedger said the surgery may be performed in several stages to remove all the cancerous tissue, especially if it is considered aggressive.

Nerves connected to the voice are located near the thyroid gland, which means surgeons must be careful when removing cancerous tissue to avoid permanent damage.

Follow-up tests are done days after surgery and for years afterward.

Simple blood tests will also measure thyroid hormone and thyroglobulin. Thyroglobulin hormone is stored in the gland, but released into the blood if there's cancer present.

Replacement thyroid hormone will be needed if the gland, which naturally makes it, is removed.

Hormone therapy can also prevent thyroid cancer from growing. Tumours are sensitive to thyroid stimulation hormone and will grow if thyroid hormones are low, while "an excess of thyroid hormone will shut them down," Driedger said.

Radioactive iodine ablation may also be needed, depending on the size of the tumour removed. This treatment clears out the remaining cancer and allows further tests, such as a whole body scan to detect cancer unseen in surgery.

The thyroid is the only part of the body able to concentrate iodine to make hormones. But, cancer in the thyroid tries to behave like the gland and produce hormones by absorbing iodine.

When preparing for ablation, a patient stops taking replacement thyroid hormones for upwards of six weeks to optimize the absorption of radioactive iodine. But this causes the patient to become hypothyroid, characterized by intolerance to cold, fatigue, emotional fluctuations, slowed thinking and slowed mechanical skills.

MANY FOODS HIGH IN IODINE

A low-iodine diet also increases the absorption of iodine for best results. Many foods are high in iodine because it's added in the preparation or by handling procedures, which means most people easily get much more than the required daily dose.

Iodine is routinely added to table salt in Canada. Milk and dairy products are also high in iodine because cows are fed iodine to prevent goitres and their teats are cleaned with an iodine solution before milking.

Restaurants also use iodine solutions to clean surfaces for food preparation.

"Many people feel the diet is worse than being low thyroid," Driedger joked.

Patients used to be admitted to hospital for ablation, but now the therapy can be done as out-patient care, provided the patient takes adequate precautions to reduce radiation exposure to other people.

At one time it was also necessary for patients to put up with hypothyroidism for repeated cancer-detecting tests after surgery, but now doctors use a new drug that allows patients to keep taking hormone therapy. Recombinant human thyroid stimulating hormone mimics the hormone produced naturally by the body. The drug, which is injected in two doses in the arm just days before the testing, also creates the best conditions for remaining thyroid cells to absorb the radioactive iodine.

DRUG BEING STUDIED

The drug is approved by Health Canada for follow-up tests for previously treated thyroid cancer, but Driedger is doing clinical trials to study its use as an alternative to causing hypothyroidism before ablation.

His research is part of a continuing debate by medical professionals about thyroid cancer and the best treatments, and even who should be treated.

"It remains a matter of great diversity of opinions," Driedger said.

Until the 1990s, thyroid cancer was not considered serious and usually the entire thyroid was removed. But that approach is no longer standard.

Part of the problem with thyroid cancer is, unlike other major cancers, there are few randomized trials studying treatments to determine what works best. Instead,

doctors depend on retrospective reports to look for trends in successful treatments.

"That's the best information we have these days," Driedger said.

His talk was sponsored by the library, the Thyroid Foundation of Canada, Grand River Hospital and the Canadian Cancer Society.

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WHAT ROLE DOES THE THYROID GLAND PLAY?

The thyroid gland is located at the base of the neck and shaped like a butterfly, with a wing lying on either side of the windpipe.

The purpose of the thyroid gland is to make, store and release thyroid hormones into the blood.

Thyroid hormones regulate the body's metabolism and organ functions. Heart rate, cholesterol levels, body weight, energy, muscle strength and memory are just a few of the functions controlled by thyroid hormones.

If the body fails to produce enough thyroid hormones, the body slows down, a condition called hypothyroidism. Too much thyroid hormones speed up the body, a condition called hyperthyroidism.

The amount of thyroid hormones made by the gland is monitored and adjusted by the master pituitary gland in the brain, helped by the hypothalamus which is also in the brain.

The pituitary monitors the level of thyroid hormones in the blood stream. If the level is low, it releases more thyroid stimulating hormone to signal the thyroid to make more hormones.

Find out more about thyroid cancer from the Thyroid Foundation of Canada, which is online at www.thyroid.ca. Call the Kitchener-Waterloo chapter at 884-6423.

People with thyroid cancer can also get in touch with other patients through The Canadian Thyroid Cancer Support Group. Go online to www.thryvors.org or e-mail thryvors@sympatico.ca.