New test reduces need for radioisotopes in certain thyroid cancer treatments

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(PhysOrg.com) -- University of Toronto researchers have discovered a new test that can drastically reduce the need for radiation treatment in low-risk patients recovering from thyroid cancer surgery, thereby sparing many patients from side-effects, and saving the costs of expensive therapies.

And at a time when radioisotopes are in short supply, this test can reduce demand and ensure that people who most need radiation treatments are able to get them.

"This protocol shows great promise as an objective, individualized indicator for selecting the right candidates for radiation treatment," said Professor Emeritus Paul Walfish of medicine and an endocrinologist at Mount Sinai Hospital. "We can save a lot of trouble for patients, and a great deal of money for the health care system."

Radiation treatment (specifically, radioiodine remnant ablation, or RRA) after thyroid cancer surgery is standard practice and is used to prevent any remaining cancer cells from spreading. But scientists at U of T and Mount Sinai, led by Walfish, have discovered that a test called post-surgical stimulated serum thyroglobin (or Stim-Tg) can accurately predict the need for RRA and often shows that such treatment is unnecessary. The study will be published in the March 10 issue of the journal *Head & Neck*.

The study followed 104 patients who had undergone surgery for thyroid

cancer and were considered low-risk because their cancer was primarily limited to the thyroid gland, with no cancerous lymph nodes in the centre of the neck.

The researchers administered the Stim-Tg test three months after the operation. The majority of patients had undetectable or minimally positive Stim-Tg and were informed that the surgery had likely removed all of the cancer. Current American and European guidelines recommend RRA for over 90 per cent of patients, which is based upon preoperative clinical features and operative pathology findings that do not necessarily reflect the actual postoperative status of the patient. However based upon the postoperative Stim-Tg,16 of the 104 patients ended up receiving the radiation therapy.

"Nearly 85 per cent of the patients avoided the RRA therapy and its potential side-effects," said Walfish. "On top of that, by reducing the number of people who received the treatment, we have achieved a considerable reduction in healthcare costs and patient inconvenience."

Follow-up studies more than three years later found that all of the patients who had avoided radiation treatment continued to have a low risk for cancer recurrence, based on repeat Stim-Tg tests and a neck ultrasound.

Provided by University of Toronto