Treatment of Subclinical Thyroid Disease Benefits Heart, Survival

BY SHERRY BOSCHERT
San Francisco Bureau

SAN FRANCISCO—Treatment of asymptomatic thyroid disease is controversial but probably worthwhile, Dr. Hossein Gharib said at Perspectives in Women’s Health sponsored by OB/GYN NEWS.

Thyroid-stimulating hormone (TSH) tests are very sensitive and frequently pick up subclinical thyroid disease. The frequency of referrals for subclinical disease seems to be increasing, said Dr. Gharib, professor of medicine at the Mayo Clinic College of Medicine and Science.

“We get a lot of consultations coming our way because of this.”

When free T4 hormone levels are normal, a TSH level below 0.5 mIU/L indicates subclinical hyperthyroidism, and a TSH level greater than 5.0 mIU/L indicates subclinical hypothyroidism. If both the TSH and free T4 levels are abnormal, the patient has clinical thyroid disease. The Framingham heart study showed that a TSH level below 0.1 mIU/L was associated with a 38% incidence of atrial fibrillation, triple the relative risk for atrial fibrillation seen in people with normal TSH levels during the 10-year study (N Engl J Med. 1994;331:1249-52).

It is well established that accelerated bone loss seen with either clinical or subclinical hyperthyroidism (especially in postmenopausal women) can be arrested or reversed with treatment of thyroid disease, he added. Another long-term study showed that people with low TSH levels have an increased risk of dying, probably from cardiovascular causes (Lancet 2001;358:861-5).

He argued for treatment of subclinical hypothyroidism disease to prevent progression to overt hypothyroidism, reduce symptoms, and reduce risks from increases in total cholesterol or cardiovascular problems that may accompany frank hypothyroidism. Treatment of subclinical hypothyroidism is controversial especially because it is not a life-threatening problem and usually is asymptomatic.

One study found that people with subclinical hypothyroidism who were TSH antibody positive had a 55% chance of progressing to clinical hypothyroidism disease over 20 years compared with 5% for those with normal antibody levels (Ann Intern Med. 1995;123:835-40).

“I think that the evidence is compelling enough that we should tell the patient, ‘Let’s treat today so you won’t become clinically hypothyroid,’” he said.

The presence of other factors should influence the decision to treat, he added. A physician may choose not to treat a healthy 35-year-old with subclinical hyperthyroidism, but should strongly consider treatment in the presence of thyroid antibodies, goiter, elevated total cholesterol, infertility, or symptoms of hyperthyroidism.

Any woman with subclinical hypothyroidism who is pregnant or thinking of becoming pregnant should be treated because even a mildly abnormal TSH level in the early stages of pregnancy can cause adverse pregnancy outcomes, Dr. Gharib said.

He suggested that women older than 30 years should get a TSH test periodically. The American Thyroid Association recommends a TSH test for women at age 35 years, to be repeated every 5 years.

Endocrine Society guidelines advise observing patients if the TSH level is 0.1-0.5 mIU/L, treating most patients with a TSH between 5 mIU/L and 10 mIU/L and treating all patients with TSH levels that are below 0.1 mIU/L or above 10 mIU/L. (Clin. Endocrinol. 1995;43:55-68).

The study results support the link between declining urinary iodine levels in pregnant women and fetal thyroid function, and the trend data for maternal UI levels, which fell to a mean of 45 mcg/L in 2004 and 42.5 mcg/L in 2005. That trend has raised concerns about the need for dietary iodine supplementation in pregnant women in Ireland, said Dr. Smyth. The study results support the link between declining urinary iodine levels in pregnant women and fetal thyroid function, and the trend data for maternal UI levels, which fell to a mean of 45 mcg/L in 2004 and 42.5 mcg/L in 2005. That trend has raised concerns about the need for dietary iodine supplementation in pregnant women in Ireland, said Dr. Smyth.

Outpatient Thyroidectomy Costs Less and Is Safe, Effective

BY ALICIA AULT
Associate Editor, Practice Trends

TORONTO—Thyroidectomy can be safely and effectively done on an outpatient basis and at a lower cost than in the hospital, according to results from a prospective, nonrandomized trial presented at the annual meeting of the American Academy of Otolaryngology–Head and Neck Surgery Foundation.

Dr. David J. Terris of the Medical College of Georgia, Augusta, presented the results of the 91-patient study. He noted that while minimally invasive techniques have made it possible to perform thyroid removal on an outpatient basis, most surgeons have continued to keep patients at least overnight for observation for complications such as laryngeal nerve damage, airway compromise, and hypoparathyroidism.

Dr. Terris and his colleagues at the medical college enrolled consecutive patients who had thyroidectomy from 2004 to 2005. Patients either had conventional surgery using a Kocher incision, minimally invasive surgery, or endoscopic thyroidectomy.

Overall, 43 patients had conventional thyroidectomy, 38 a total thyroidectomy, and 11 a completion thyroidectomy. Of the 91 patients, 76 were women and 15 were men; the mean age was 46 years. The surgery was performed on an outpatient basis in 52 of the cases and as an inpatient procedure in 39. A procedure was considered inpatient if the patient was observed for 23 or more hours. Before the operating started, or if the patient was discharged before the last incision was made, he or she was considered an inpatient procedure.

Patients who were discharged as soon as they were ambulatory and could manage the pain. They were told to seek medical help if they had symptoms such as respiratory compromise or hypocalcemia, and were seen for follow-up 1-2 weeks after thyroid surgery.

To detect hypocalcemia, every patient was given a prophylactic regimen of oral calcium carbonate for 3 weeks before the surgery. They took 600 mg three times daily for the first week, 600 mg twice daily in the second week, and 600 mg once a day in the third week.

There was no significant difference in age or gender between the inpatients and the outpatients. The operating time was shorter for outpatients—102 minutes, compared with 144 minutes for inpatients. Mean estimated blood loss was lower in the outpatients group, at 18 mL, compared with 29 mL for the inpatient arm.

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The study also showed that giving patients calcium before surgery also curbs the risk of hypocalcemia, he added.

Another argument favors outpatient thyroidectomy. The mean charge was lower, $7,800 for outpatient surgery, compared with $10,200 for inpatient surgery.

Mother’s Iodine Intake Affects Newborn’s TSH

BY HEIDI SPLITE
Senior Writer

PHOENIX—Neonatal thyroid-stimulating hormone data can be used to detect epidemiologic trends in iodine deficiency in pregnant women, a study showed.

“TSH in neonates can be used to detect iodine deficiency in pregnant women,” said Dr. Peter Smyth of the Conway Institute of Biomolecular and Bioenergetic Research at the University College Dublin.

Steps can be taken to increase iodine intake in pregnant women (which is important for proper fetal cognitive development) if the neonatal TSH in a population suggests low levels of maternal dietary iodine. The fetus depends on maternal thyroid hormones for normal development during the first 13-15 weeks of pregnancy, Dr. Smyth noted.

To assess the potential role of neonatal TSH as an indicator of a mother’s iodine status, researchers screened a birth cohort of babies born in Ireland between 1988 and 2006.

Overall, TSH levels in newborns increased slightly but steadily during the study period, although the proportion of infants with severe iodine deficiency (TSH levels less than 5 mU/L) remained constant and stayed in a range of 2.35%-2.83%.

Noteably, data from routine neonatal TSH screening showed that the proportion of infants born in August had consistently higher TSH levels than infants born in January. Most dietary iodine intake is from milk and dairy products, and dietary iodine intake is disproportionately lower during the summer because the herd animals are out grazing and not receiving any nutritional supplements, Dr. Smyth explained.

Iodine levels in pregnant women were assessed using urinary iodine (UI) excretion values, and the decline in these values during the study period confirmed that the female population was borderline iodine deficient but relatively stable, although the UI values reflected the seasonal variation in dietary iodine intake.

From 1988 to 2003, the mean maternal UI values ranged from 70 to 83 mcg/L, during the summer months and from 82 to 137 mcg/L during the winter months.

But findings from 2004 and 2005 showed a significant drop in maternal UI levels, which fell to a mean of 45 mcg/L in 2004 and 42.5 mcg/L in 2005. That trend has raised concerns about the need for dietary iodine supplementation in pregnant women in Ireland, said Dr. Smyth.

The study results support the link between declining urinary iodine levels in pregnant women and fetal thyroid function, and the trend data for maternal UI levels, which fell to a mean of 45 mcg/L in 2004 and 42.5 mcg/L in 2005. That trend has raised concerns about the need for dietary iodine supplementation in pregnant women in Ireland, said Dr. Smyth.

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