



Thyroid Disease in the Older Patient

WHAT IS THE THYROID GLAND?

The thyroid gland is a butterfly-shaped endocrine gland that is normally located in the lower front of the neck. The thyroid's job is to make thyroid hormones, which are secreted into the blood and then carried to every tissue in the body. Thyroid hormone helps the body use energy, stay warm and keep the brain, heart, muscles, and other organs working as they should.

DEFINITION

WHAT DO THE FOLLOWING PATIENTS OVER THE AGE OF 60 YEARS HAVE IN COMMON?

- 1) A 72 year old woman with "fluttering of the heart" and vague chest discomfort on climbing stairs
- 2) An 80 year old man with severe constipation who falls asleep often
- 3) A 65 year old woman who has lost strength in her legs, causing difficulty in climbing stairs; she has recently lost 15 lbs in spite of a very good appetite
- 4) A 75 year old woman who has developed difficulty swallowing and a dry cough, accompanied by hoarseness, weight gain, and dry, itchy skin
- 5) A 78 year old man with hearing loss
- 6) An 84 year old woman in whom a hand tremor has caused her to give up favorite activities. She is so depressed that she will not eat, and she has lost 12 lbs in the last 4 months.

All of these patients have abnormal function of their thyroid glands. Patients 1, 3 and 6 have hyperthyroidism, that is, excessive production of thyroid hormone by their thyroid glands. Patients 2, 4 and 5 have hypothyroidism, or reduced production of thyroid hormone. While some of the symptoms of hyperthyroidism and hypothyroidism are similar to those in younger patients, it is not uncommon for both hyperthyroidism and hypothyroidism to be manifest in subtle ways in older patients, often masquerading as diseases of the bowel or heart or a disorder of the nervous system. An important clue to the presence of thyroid disease in an elderly patient is a history of thyroid disease in another close family member such as a brother, sister or child of the patient.

HYPERTHYROIDISM & TREATMENT

HYPERTHYROIDISM IN THE OLDER PATIENT

As in all hyperthyroid patients, if there is too much thyroid hormone, every function of the body tends to speed up (see *Hyperthyroidism brochure*). However, while the younger patient often has multiple symptoms related to the overactive thyroid, the elderly patient may only have one or two symptoms. For example, patient number 1, above, experienced only a sensation of her heart fluttering, and some chest discomfort on climbing stairs. Other patients may also have few symptoms, such as patient number 6, whose main symptoms are depression and tremor. Such a patient may withdraw from interactions with friends and family.

TREATMENT OF THE OLDER PATIENT WITH HYPERTHYROIDISM

As with younger patients, treatment of hyperthyroidism in the older patient includes antithyroid drugs and radioactive iodine (see *Hyperthyroidism*



brochure). Surgery is rarely recommended due to increased operative risks in the older patient. While Graves' disease is still a common cause of hyperthyroidism, toxic nodular goiter is seen more frequently in the older patient. During therapy, the effects of change in thyroid function on other body systems must be closely monitored, due to an increased likelihood of co-existing cardiac, central nervous system and thyroid disease in older patients. Most often, thyroid function is brought under control first with antithyroid drugs (propylthiouracil or methimazole (Tapazole®)) before definitive treatment with radioactive iodine.

During the initial phase of treatment, doctors will observe cardiac function closely due to the effect of changing thyroid hormone levels on the heart. Symptoms of hyperthyroidism may be brought under control with adjunctive medications, such as beta-adrenergic blockers (propranolol [Inderal®], metoprolol [Lopresor®]), which are often given to slow a rapid heart rate, although they must be given with caution in the patient with co-existing congestive heart failure and the dose should be reduced once thyroid function is controlled in the normal range. Symptoms and signs of angina pectoris and heart failure must be treated in tandem with the treatment to bring thyroid function under control.

Once thyroid function is maintained in the normal range with oral medication, the doctor and patient can make a decision on definitive treatment with radioactive iodine together. There is some controversy about what the normal level of TSH is for elderly patients. In general, an attempt is made to render thyroid function either normal or low in an elderly patient treated with radioactive iodine. Treatment of an underactive thyroid condition (hypothyroidism) is usually more straightforward than the problem of recurrent hyperthyroidism in the older patient, because of the effect hyperthyroidism can have on the heart, as indicated above. A frequent clinical concern is the treatment of patients with normal T4 and T3 with suppressed TSH. An isolated low TSH is particularly common in older patients. Most clinicians will follow these patients, without treatment unless they are symptomatic.

HYPOTHYROIDISM & TREATMENT

HYPOTHYROIDISM IN THE OLDER PATIENT

Hypothyroidism is very common in patients over 60 years of age and steadily increases with age (see *Hypothyroidism brochure*). Up to 1 in 4 patients in nursing homes may have undiagnosed hypothyroidism. Unlike symptoms of hyperthyroidism, the symptoms of hypothyroidism are very non-specific in all patients, even more so in the older patient. As with hyperthyroidism, the frequency of multiple symptoms decreases in the older patient. For example, memory loss or a decrease in cognitive functioning, often attributed to advancing age, may be the only symptoms of hypothyroidism present. Symptoms and signs of hypothyroidism may include weight gain, sleepiness, dry skin, and constipation, but lack of these symptoms does not rule out the diagnosis. To make this diagnosis in the elderly patient, a doctor often needs a high index of suspicion. Clues to the possibility of hypothyroidism include a positive family history of thyroid disease, past treatment for hyperthyroidism, or a history of extensive surgery and/or radiotherapy to the neck.

A decision to treat the patient with a new diagnosis of hypothyroidism will rest on several factors, including whether the patient is symptomatic from hypothyroidism, or just has an elevated thyroid-stimulating hormone (TSH) level. In the case of the latter finding, many doctors will repeat the test in 3-4 months and elect to begin thyroid hormone replacement when the TSH level stays above the normal range. The presence or absence, and severity, of thyroid-related symptoms and co-existing diseases such as coronary artery disease or heart failure will determine the dose of thyroid hormone replacement that is given.

TREATMENT OF THE OLDER PATIENT WITH HYPOTHYROIDISM

As with the younger patient, pure synthetic thyroxine (L-T4), taken once daily by mouth, fully replaces the function of the thyroid gland and successfully treats the symptoms of hypothyroidism in most patients (see *Thyroid Hormone*

Treatment brochure). In particular, treatment of the older hypothyroid patient must take into account that full thyroid hormone replacement need not take place rapidly, and in fact may put stress on the heart and central nervous system if accomplished too quickly. Rather, hormone treatment is usually begun slowly with a partial daily dose, in order to allow the heart and central nervous system to adjust to increasing levels of thyroid hormone. The patient and family members must be aware of a possible increase in angina, shortness of breath, confusion and change in sleep habits, and notify the prescribing physician if these occur.

Treatment may therefore begin with L-T4 in a dose of 25 to 50 micrograms daily, and the dose increased in steps every 4-6 weeks until the laboratory tests show a gradual return of blood thyroid hormone and thyroid-stimulating hormone (TSH) levels to the normal range. Older patients with no evidence of heart disease, stroke or dementia may be started on larger doses (for example, half of the anticipated full replacement dose) and proceed to full hormone replacement more quickly. In patients who experience increased angina pectoris, symptoms of congestive heart failure, or mental changes such as confusion will need to have their dose of L-T4 decreased, then more gradually increased over several months' time.

SUMMARY

Thyroid disorders have no age limits; indeed, hypothyroidism is clearly more common in older than in younger adults. Despite the increased frequency of thyroid problems in older individuals, physicians need a high index of suspicion to make the diagnosis since thyroid disorders often manifest as a disorder of another system in the body. Older patients with thyroid disorders require special attention to gradual and careful treatment, and, as always, require lifelong follow-up.



FURTHER INFORMATION

Further details on this and other thyroid-related topics are available in the patient information section on the American Thyroid Association website at www.thyroid.org.