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Subclinical Hypothyroidism with Fluctuating TSH in an Elderly Male: A 40-Year Follow-up of a Previously Treated Hyperthyroid Patient

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ABSTRACT

A 78-year-old Asian male with a remote history of hyperthyroidism treated in early adulthood was found to have persistently elevated thyroid stimulating hormone (TSH) levels during routine annual check-ups from the age of 70. Despite being asymptomatic, after regular watchful follow up he commenced on levothyroxine 50 µg daily. Over two years of therapy, TSH levels gradually normalized into the low-normal range. This case highlights the challenges of managing subclinical hypothyroidism in the elderly, underscores the importance of individualized treatment decisions, and offers the unique perspective of a physician-patient navigating evidence-based care.

Keywords

Subclinical hypothyroidism, Elderly, Thyroid stimulating hormone, Levothyroxine, Case report.

Backgroung

The management of subclinical hypothyroidism in elderly patients remains controversial, with international guidelines offering differing thresholds for treatment initiation. Long-term follow-up of patients with a history of thyroid disease is uncommon, and cases documenting the transition from hyperthyroidism in early adulthood to hypothyroidism decades later are particularly rare. This case is further distinctive as the patient is a physician, providing valuable insights into shared decision-making and patient-centered care.

Case Presentation

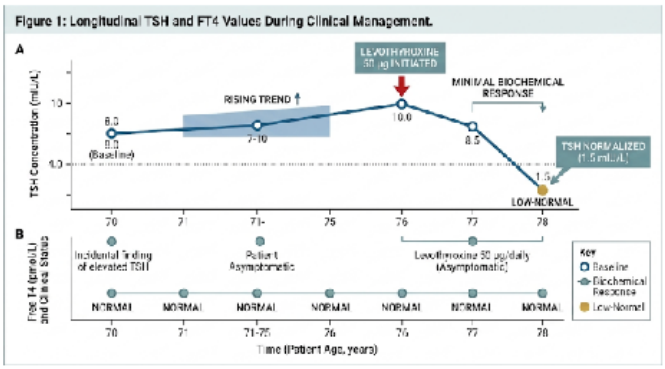
A 78-year-old Asian male, a retired pulmonologist, presented for routine health evaluation. At the age of 70, mildly elevated TSH levels were detected. He remained asymptomatic with no clinical signs of hypothyroidism evaluation. He denied fatigue, cold intolerance, weight gain, or cognitive decline. On physical examination, his vital signs were stable, and no thyroid enlargement or peripheral edema was observed.

- **Past history:** Hyperthyroidism at age 35, treated with antithyroid drugs, declared euthyroid by age 42.
- **Family history:** Mother with hyperthyroidism.
- **Comorbidities:** None significant.
- **Medications:** None prior to levothyroxine.
- **Lifestyle:** Active, with no functional limitations.

Investigations

Age (years)	TSH (mIU/L)	Free T4 (pmol/L)	Notes
70	8.0	Normal	Elevated TSH discovered incidentally
71–75	Rising (7–10)	Normal	Patient asymptomatic
76	~10	Normal	Started levothyroxine 50 µg daily
77	7–10	Normal	Minimal biochemical response
78	Low-normal	Normal	TSH normalized on continued therapy

Figure 1: Chronological clinical summary of subclinical hypothyroidism management in an elderly patient.



Differential Diagnosis

The differential diagnosis included: Subclinical hypothyroidism due to autoimmune thyroiditis [1], transient TSH elevation due to intercurrent illness [2], and laboratory variability [3]. Given the persistently elevated TSH on repeat testing after 6 weeks, subclinical hypothyroidism was confirmed.

Treatment

Levothyroxine was initiated at 50 µg daily. Therapy was maintained despite the initial lack of biochemical response. After two years of adherence, TSH normalized.

Outcome and Follow-up

The patient remains asymptomatic with stable, low-normal TSH levels on levothyroxine. No clinical features of hypothyroidism or complications have been observed.

Discussion

Subclinical hypothyroidism in older adults is a frequent finding, particularly among individuals with a history of thyroid disease. However, its management remains debated. Current guidelines from the American Thyroid Association (ATA) and European Thyroid Association (ETA) recommend individualized decision-making, especially in asymptomatic elderly patients where overtreatment may pose risks.

This case illustrates:

1. The importance of long-term surveillance in patients with a remote history of thyroid disease.
2. The clinical dilemma of whether to treat asymptomatic subclinical hypothyroidism in elderly individuals.
3. The patient's unique dual role as physician and patient, which provided a perspective on shared decision-making and acceptance of long-term therapy.

Few reports describe patients transitioning from treated hyperthyroidism in early adulthood to subclinical hypothyroidism decades later, underscoring the need for lifelong vigilance and personalized management of thyroid dysfunction.

Patient's Perspective

"As both a doctor and a patient, I was initially hesitant to start levothyroxine since I had no symptoms. My consultants, however, emphasized the risks of progression. Over two years, I observed my TSH gradually normalize. The experience reminded me that being a doctor does not shield one from the uncertainties of illness. It reinforced the importance of balancing evidence-based guidelines with the individual patient's context."

Learning Points

- Subclinical hypothyroidism is common in the elderly and often asymptomatic.
- Management decisions should be individualized, balancing risks and benefits of therapy.
- Observation is appropriate for older adults with mild TSH elevation (<10 mIU/L) and no symptoms.
- Long-term follow-up is essential to detect progression to overt hypothyroidism.
- Patient involvement in shared decision-making enhances adherence and satisfaction.

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