# A 66-year-old woman with increasing physical and mental lethargy and weight gain

John Murtagh

## Case history

A 66-year-old woman presented with a 10-month history of gradually increasing fatigue, lethargy, weight gain, constipation, and difficulty coping with the cold winter. She feels like sitting by the fire and doing nothing. She tends to sleep excessively. She also complains of chest tightness and shortness of breath on exertion, such as when she hurries to catch a bus.

Her daughter, who accompanied her to the medical appointment, has noticed that her mother has slowed down in her general movements and cognition. The patient appears pale and has developed a somewhat round, puffy face. She wondered if her mother was developing early Alzheimer's disease.

- Past history: Generally good health with the exception of type 2 diabetes mellitus
- Drug history: Metformin, one tablet daily
- Social history: Lives with 71-year-old husband and daughter

## Physical examination

General appearance: Tired-appearing woman, slow thought processes and physical movements, and expressionless, swollen face

- overweight (BMI=30 kg/m$^2$)
- pulse, 56/min and regular; BP, 130/70 mmHg; temperature, 36.3°C; respiratory rate, 12/min
- cold hands and feet, skin dry, coarse and dry hair
- reflexes poorly active with delayed ankle jerk
- Folstein Mini-mental State Examination – 22 of 30 points

## Questions for the physician to consider

1. What is the most likely diagnosis?
2. What are the associated medical problems in this patient?
3. What serious problems must not be missed?
4. What investigations would you order?

## Results of investigations

1. Free thyroxine (T4), 8.5 pmol/L (normal, 10–19 pmol/L)
2. Thyrotropin (TSH), 32 mIU/L (normal, 0.4–5.9 mIU/L)
3. Hemoglobin, 102 g/L (normal, 130–180 g/L [males] and 115–165 g/L [females])
4. Blood film: macrocytic red cells
5. Fasting glucose, 7 mmol/L (normal, 3.5–6 mmol/L)
6. Fasting cholesterol, 8.0 mmol/L (normal, <5.5 mmol/L)

CORRESPONDING AUTHOR:
John Murtagh
Emeritus Professor, Department of General Practice, Monash University, Victoria 3165, Australia
E-mail: john.murtagh@monash.edu

Funding: This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Received 20 June 2014;
Accepted 15 August 2014



7. eGFR: 65 mL/min
8. ECG-sinus bradycardia, low voltage, flat T waves

## Discussion

The most likely diagnosis is hypothyroidism with mild macrocytic anemia and elevated lipids, which are associated with hypothyroidism.

While it is important not to miss the diagnosis of hypothyroidism, it is especially important not to overlook ischemic heart disease, especially as the history is suggestive of angina with chest tightness on exertion. The ECG shows changes that are consistent with hypothyroidism. Remember that the rapid introduction of thyroid replacement can precipitate an acute myocardial infarction.

The patient is a diabetic, thus it is important not to overlook kidney failure; indeed, the patient does have mild failure.

The mental state examination and history is consistent with mild dementia, which can be explained by the hypothyroidism, which affects the patient's intellectual processes, including comprehension.

## Conflict of interest

The author declares no conflict of interest.