

A lady with trouble sleeping

geekymedics.com/a-lady-with-trouble-sleeping

Dr Lewis Potter

9 March 2011



A 46-year-old woman presents to her GP feeling generally unwell. Work through the case to reach a diagnosis and decide how best to manage the patient.

History

Presenting complaint

“I’ve just not been feeling right doctor, I feel terrible in fact. I’m losing weight, my bowels have taken a turn for the worse and I’m struggling to sleep. I’m also really worried, my heart is racing sometimes, I think something is seriously wrong!”

Ask for more detail about each of the symptoms mentioned in the presenting complaint

Weight loss:

- How much?
- Duration?
- Appetite?
- Diet?
- Change in level of exercise?

Bowel habit (clarify the “bowel issue”)

- Diarrhoea or constipation?
- Frequency of bowels opening?
- Any blood in the stool?
- Any change in colour of the stool?
- When did the bowel habit change?
- Are there any obvious triggers? Change in diet?
- What is the patient’s normal bowel habit?

- Any abdominal pain? (if so, use SOCRATES to explore)

Sleeping:

- Can you tell me a little bit more about your sleep problem?
- Before you started feeling unwell, how many hours a night on average did you normally sleep?
- How many hours a night are you sleeping now?
- Are there any specific factors you've identified that are affecting your sleeping pattern?
- Have you ever experienced anything like this before?

Heart racing (palpitations):

- How often does this occur?
- When did it start?
- Does it occur at rest, or only during exertion?
- Any obvious triggers?
- Do the palpitations feel regular or irregular?
- Any associated chest pain or shortness of breath?
- Any dizziness or loss of consciousness?

Other areas to cover:

- Have you experienced any other symptoms, other than those you've already described?
- Do you have any medical problems?
- Are you taking any regular medication?
- Do you drink alcohol or use recreational drugs?

Patient's response...

"I've lost about 4kg over the last 6 months. My appetite has been fine, I've been eating more if anything! I go to the gym twice a week and have done for many years, so no change there."

"Sorry doctor, I should have been more specific, it's just embarrassing. I've got diarrhoea, I'm going about 3-4 times a day, normally I'd just go once in the morning. The diarrhoea started about 4 months ago and hasn't really improved since. There's been no change in the colour and no blood in the stool. I haven't managed to identify any obvious trigger, it's just always happening, regardless of what I eat or do. I don't have any abdominal pain or bloating."

"The heart-racing really scares me, I keep worrying I'm having a heart attack! It seems to come on suddenly at random intervals, I can't identify any triggers. I don't get any chest pain or shortness of breath, but I sometimes feel a bit dizzy. I haven't ever lost consciousness though. It's hard to say if it's regular, I'm pretty sure it's irregular, but I couldn't be totally sure."

“I can’t seem to figure out why I’m sleeping so poorly at the moment. Before all of this began, I was sleeping at least 8 hours a night, but now I’m lucky if I have 4 or 5 hours. I just lay awake, feeling anxious and alert. There’s nothing I’m currently worried about, so I don’t understand what’s going on.”

“Sorry I forgot to mention that I’ve also been feeling a bit shaky, my hands at times really tremble, despite me not being particularly anxious, it’s really weird. Otherwise, I’m fairly fit and well, I don’t have any other medical problems and don’t take any regular medication other than the oral contraceptive pill. I don’t think there are any medical problems that run in my family, I rarely drink alcohol and I’ve never used recreational drugs.”

Examination

- Cardiovascular examination
- Abdominal examination
- Thyroid status examination

Clinical findings

- Her hands are warm and sweaty
- She has an irregularly irregular pulse of 110 bpm
- Auscultation reveals normal heart sounds with no added sounds
- She has a significant resting tremor
- There is some mild exophthalmos
- She has a visible diffuse goitre which is palpable
- On auscultation, there is a bruit over the goitre
- She has hyperreflexia
- Abdominal examination is unremarkable

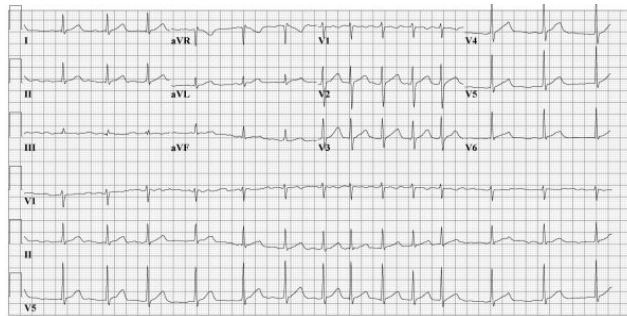
Investigations

- Full blood count
- Urea & Electrolytes
- LFTs
- T3 & T4
- TSH
- Thyroid autoantibodies
- ECG
- Ultrasound scan of the neck

Results

- FBC – normal
- U&E – normal
- T3 & T4 – significantly raised

- TSH – undetectable
- Thyroid-stimulating hormone receptor antibodies – positive



ECG ¹

- An absence of p-waves and an irregularly irregular rhythm
- This is in keeping with a diagnosis of **atrial fibrillation**

Diagnosis

Hyperthyroidism is overactivity of the thyroid gland, which results in a number of symptoms and signs, as shown below.

Symptoms

- Weight loss
- Increased appetite (can sometimes be decreased)
- Irritability
- Diarrhoea
- Sweating
- Tremor
- Anxiety
- Heat intolerance
- Oligomenorrhoea or amenorrhoea

Signs

- Fine tremor
- Sweaty and warm palms
- Brisk reflexes
- Goitre
- Proximal myopathy
- Lid lag
- Exophthalmos

Graves' disease

Graves' disease is the most common cause of hyperthyroidism. It is an **autoimmune disease** directed against **thyroid-stimulating hormone** receptors. The **autoantibodies stimulate** the **TSH receptors** causing increased **T3 and T4** production. It is most common in **middle-aged women**, with a female to male ratio of **8:1**. Patients become symptomatic due to **thyrotoxicosis** (high levels of T3 and T4).

Grave's disease is also associated with **exophthalmos**, which this patient has (making other causes of hyperthyroidism less likely).

Other causes of hyperthyroidism

- Toxic multinodular goitre
 - Toxic thyroid adenoma
 - Thyroiditis
 - Drug-induced hyperthyroidism
-

Management

Initial management

All patients with new-onset thyrotoxicosis should be referred to secondary care, for further investigation to establish the underlying cause and management.

Beta-blockers can be commenced initially to help with symptom control (e.g. tachycardia, tremor), whilst further investigations and definitive management is awaited.

Anti-thyroid drugs

Carbimazole or propylthiouracil act quickly to inhibit thyroid hormone production and reach their full effect in 2-3 weeks. Propylthiouracil can cause severe liver failure and therefore it is typically only used in the context of pregnancy or for patients experiencing a thyroid storm.

There are two different approaches to treat hyperthyroidism with anti-thyroid drugs:

- Block and replace – anti-thyroid drugs are given alongside thyroxine replacement (levothyroxine)
- Dose titration – anti-thyroid drugs are used alone, with the dose slowly titrated upwards until thyroid hormone production normalises

TFTs need to be repeated every month and anti-thyroid drugs and/or levothyroxine doses are adjusted accordingly.

Once the patient is euthyroid, the dose of the anti-thyroid drug is reduced to the lowest amount necessary to maintain T3 and T3 in the normal range.

Patients should be informed that should they develop a sore throat, or other symptoms of infection, they should have their blood levels check (full blood count), as there is a small risk of bone marrow suppression associated with anti-thyroid drugs.

Definitive management

There are three definitive treatment options for hyperthyroidism:

- **Anti-thyroid drugs** (e.g. carbimazole or propylthiouracil) – typically first-line (but if the patient relapses, the next two options are considered)
- **Radio-iodine treatment**
- **Surgical management** (e.g. subtotal or near-total thyroidectomy)

Radio-iodine

Radioactive iodine is administered as a drink and is rapidly taken up by the thyroid gland, which ultimately leads to the destruction of the gland within 3-4 months.

This treatment cannot be given to pregnant or breast-feeding females (and patients should be advised not to get pregnant for at least 6 months after treatment).

Radio-iodine can worsen Grave's eye disease, so this should be considered and discussed with the patient.

Patients need to avoid close contact with children and pregnant women for 3 weeks after treatment, due to the radioactive nature of the treatment (which is excreted in the urine).

Surgical management

Surgery is often the last resort in the management of thyrotoxicosis (although may be more appropriate in certain situations such as pregnancy or in those with Grave's related eye disease). Patients need to be in a euthyroid state prior to surgery (e.g. using anti-thyroid drugs) due to the risk of thyroid storm after surgery.

The most common procedure is a subtotal thyroidectomy and this achieves a 98% cure rate. Complications include bleeding, hypothyroidism, hypoparathyroidism and vocal cord paralysis.

Patients need monitoring of TFTs for several years after surgery due to the risk of hypothyroidism.

References

1. CardioNetworks. *ECG example* [CC BY-SA]. Available from: [\[LINK\]](#)
 2. Patient.info. Hyperthyroidism. Authored by Dr Louise Newson. Last updated in December 2015. [\[LINK\]](#)
-

