# A young man with mysterious oedema and weight loss

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**Emergencies can spring up at any time and in many incarnations. Are you adequately equipped to deal with them? Each month we present a case study in emergency medicine based on real cases and events. Would you have been able to help this patient?**

You are doing your regular shift as a GP in the emergency department. It is yet another evening when the department is under siege. One of the registrars approaches to ask for your advice.

## The story so far

The story starts off unusually. A 24-year-old man was being sent to a neighbouring hospital (hospital A), where he had been initially treated after being knocked off his bicycle by a car.

In his letter, the local doctor explains that he had rung hospital A and was told to send the patient to hospital B – yet another hospital, not yours. However, because your hospital is closer to where he lives, the patient has come to you.

The referring GP's letter is to the point. His main concern is of a progressive weight loss over the last nine months, the patient's weight dropping from 68 to 56 kg. The GP reports that the patient had been seen in the Eating Disorder Clinic at hospital B. The referring GP is also worried about bilateral ankle oedema, which has developed in the last two weeks. The day the GP saw the patient, he looked unwell, and was hypotensive and bradycardic.

## A new chapter?

The patient is alert, very pleasant, and totally 'with it'. He has no pain and is not in any distress. Findings on observation are all normal (blood pressure is 110/70 mmHg), apart from a pulse of 42 beats per minute. He is taken to a cubicle and told that he will be seen, but there is a fair wait.

At many universities, there is now a compulsory attachment to emergency medicine in the final year of medicine. Often, the students are 'buddied' with a resident or registrar – that is, they work the same rosters. A final year student is allocated to our patient. She is asked to ring both hospitals A and B and to ask them to fax their medical records of the patient across to you.

Records from the Eating Disorder Clinic are not available; however, the hospital that treated the patient after his road accident sends over their emergency department notes. Apparently, the patient had been knocked sideways at a roundabout by a car travelling at some 20 km/hour. There had been no loss of consciousness and no dizziness. A laceration to the eyebrow was sutured after facial x-rays showed there was no fracture.

## The current history

The current history has obvious signs of being taken by a thorough medical student: the notes are clearly legible, well set out and extensive. The student has found out many facts by 'trawling'.

The history states that the main impact

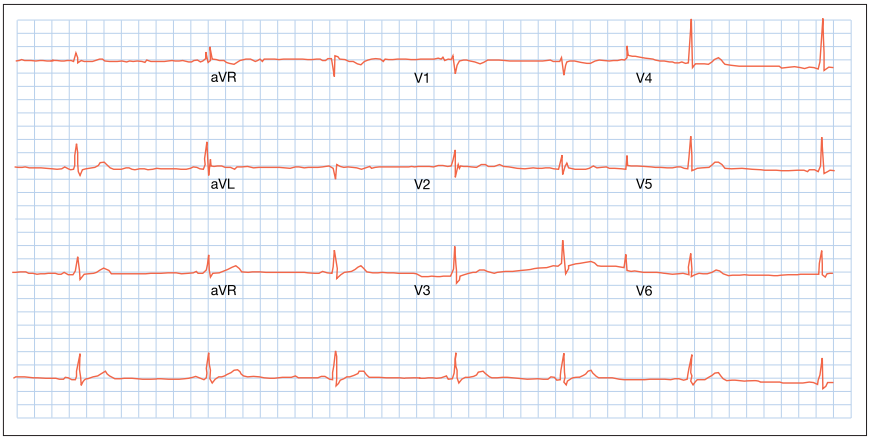


Figure. ECG showing sinus bradycardia of 42 beats per minute but no other abnormalities.

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of the accident has been emotional stress. A detailed food intake history reveals the patient has been eating three meals a day but has had a decreased appetite. There has been no vomiting, diarrhoea or dysphagia, but there has been occasional bloating and nausea.

The current symptoms of tiredness, feeling unwell, ankle oedema and an occasional shortness of breath on exertion are noted. The student has also elicited some symptoms of depression and teariness. The patient feels the cold easily and, over the last month, has noticed some numbness and pins and needles on the soles of the feet.

The patient is a country boy studying at TAFE and working at a healthfood store. He takes some multivitamin and mineral supplements. He does not smoke cigarettes but smokes the occasional 'joint' (marijuana). He does not drink alcohol.

## Physical examination

Physical examination reveals pitting oedema to both knees, bradycardia and a possible slightly orange appearance in the skin. The urinalysis is negative.

As there is still some delay before he will be seen by the registrar, the student has taken blood and a social worker has been asked to assess the young man. You are fortunate in having a departmental social worker present for extended hours, seven days a week. He is asked to interview the patient to explore possible psychosocial factors influencing the weight loss and bilateral ankle oedema.

## The social work assessment

The social worker's report is recorded on the Social Work Information and Statistical System, a special computer program that logs all social work assessments. A detailed history is taken of drug and alcohol use, mental health, possible post-traumatic stress disorder, and any other causative factors. Even a history of past overseas travel is obtained.

The conclusion is that a psychosocial cause for the patient's symptoms is unlikely. A low score on the psychological stress scale, an absence of any major symptoms or post-traumatic stress, as well as a convincing honesty in the patient's manner underpin the conclusion.

## Further assessment

Finally, the emergency registrar sees the patient but cannot add to the above picture. The blood tests have come back. Only three tests are abnormal:

- potassium, 2.8 mmol/L (normal, 3.5 to 5.0 mmol/L)
- total protein, 61 g/L (normal, 66 to 82 g/L)
- creatine kinase, 174 U/L (normal, less than 130 U/L).

The blood sugar level, thyroid function tests and cardiac enzyme assays are all normal. The ECG is scrutinised for any signs consistent with hypokalaemia (Figure), even though they are unreliable and do not correlate with blood levels (Table 1).

The registrar is struck by the clinical history, signs and tests but lack of obvious pathology. He asks you for advice.

## Your turn

When you see the patient, you are also concerned. You are impressed by the signs, and the patient's sincerity. When scanning for possible causes of hypokalaemia, you are puzzled (Table 2).

In the meantime, the referring GP has been contacted and is able to add that there had been no evidence of an eating disorder found at hospital B. You have trouble deciding which specialist should become involved in follow up but finally decide upon a renal physician.

## The outcome

A couple of weeks later, you receive a copy of a detailed letter from the nephrologist to the GP. The nephrologist is quite impressed by the relationship of the motor vehicle accident to the symptoms but is effectively at a loss to nail a diagnosis, apart from listing extra possibilities, e.g. post-traumatic pituitary damage.

More tests were ordered while the patient increased his potassium intake. The extra tests did not reveal anything, but the patient improved.

This case is a reminder that medicine is at times an unsatisfactory science and that the patient may improve in spite of it. MT

### Table 1. ECG changes in hypokalaemia*

- T wave flattening
- U waves
- ST segment depression
- Prolonged QU intervals

* Changes relate to delayed ventricular depolarisation.

### Table 2. Major causes of hypokalaemia

- Decreased potassium intake (e.g. dietary, alcohol-induced)
- Increased potassium loss (e.g. gastroenteritis, diarrhoea)
- Shift into cells (e.g. metabolic acidosis, insulin)
- Renal factors (e.g. diuretics, mineralocorticoids)

### Call for case studies

Each month in 'Clinical case review' we present a clinical problem seen in general practice together with a commentary from an expert in the field. So, if you see an interesting or puzzling case that you would like to be considered for the series, write to: Medicine Today, PO Box 1473, Neutral Bay NSW 2089.