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Letter to the Editor

Decompensation of chronic heart failure associated with pregabalin in a 73-year-old patient with postherpetic neuralgia: a case report

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Pregabalin is a relatively new drug in the treatment of peripheral neuropathic pain in adults. The most common associated adverse drug events (ADEs) are dizziness and somnolence, followed by peripheral oedema and weight gain [1–4]. There has been one report of exacerbation in three chronic heart failure (CHF) patients 1–2 months after starting pregabalin [5]. We report the case of a man with known end-stage CHF who experienced an acute decompensation 1 week after starting treatment with pregabalin 150 mg daily for postherpetic neuralgia.

A 73-year-old man with CHF [New York Heart Association III–IV, left ventricular ejection fraction (LVEF) 29%] came to the Heart Failure Clinic with acute decompensation after treatment with increased dosages of an oral diuretic – as initiated by his general practitioner (GP) – failed. Table 1 shows the patient's medication list. The patient had been known since 1998 to have a compromised LVEF and the aetiology of his CHF was non-ischaemic cardiomyopathy. An echocardiogram, performed 6 months before this manifestation, showed severely compromised left ventricular function and normal right ventricular function. The right ventricular systolic pressure was 35 mmHg and the aortic prosthesis had a normal function with only minor regurgitation. Two months before manifestation, acute herpes zoster was diagnosed with blisters over the area of thoracic dermatomes 3 and 4. Initial treatment included valaciclovir (3000 mg daily) and prednisolone. Since there was no improvement after 7 weeks, the pain team recommended methadon 10 mg daily and pregabalin 150 mg daily. Parallel with these new prescriptions, the GP made a generic substitution of bumetanide. Within 1 week, the patient experienced a body weight gain of 7 kg and developed symptoms of dizziness, orthopnoea and shortness of breath. Examination revealed a blood pressure of 130/80 mmHg, a regular pulse of 80 bpm, a body weight of 120 kg, ascites, oedema of the upper legs and pitting ankle oedema. Blood tests showed a decrease of renal function (potassium 5.2 mmol l^{-1}, sodium 135 mmol l^{-1}, urea 16.3 mmol l^{-1}, creatinine 154 umol l^{-1}, estimated glomerular filtration rate 41 ml min^{-1}, uric acid 0.4 mmol l^{-1}).

At first glance, no obvious cause was found for the weight gain of 7 kg in 1 week, as the patient claimed to be adherent to fluid and sodium restriction. The patient's own explanation of the sudden weight gain focused on the diuretic switch, but this was judged unlikely, since it involved only a generic substitution. Pregabalin was considered the most likely causal agent, as it can cause peripheral oedema and increased weight. Pregabalin was discontinued and bumetanide dosage was increased from 6 mg daily to 9 mg daily. One month after presentation, the patient's body weight had normalized, and he had less oedema and shortness of breath. The pain team had no alternative therapeutic options left for the treatment of postherpetic neuralgia and decided to withdraw. Consequently, the quality of life for this patient decreased due to continuous pain and sleep disturbance.

We cannot definitely contribute the reported event as an ADE of pregabalin based on Bayesian methods, as there was no evidence available of a drug-induced reaction to a rechallenge. However, the timeline between the beginning of pregabalin administration and the onset of ADE is prominent, 7 days compared with a period of 1–2 months in previous reports [5]. Furthermore, no other feasible cause could be found for the acute decompensation. Finally, a successful dechallenge occurred. Although the mechanism of action is uncertain, interaction with the calcium channel has been suggested, which might explain that a clinical deterioration in heart failure status is seen particularly in patients with systolic dysfunction [5].

Table 1

Medication treatment and indication

Generic	Dosage	Frequency	Indication
Bumetanide	6 mg	Daily	Chronic heart failure
Fenprocoumon	prn	Daily	Prophylaxis of tromboembolic disorder due to heart valve (aortic) prosthesis
Digoxin	0.125 mg	Daily	Chronic heart failure
Perindopril	4 mg	Daily	Chronic heart failure
Spironolacton	50 mg	Daily	Chronic heart failure
Gliclazide	160 mg	Daily	Diabetes mellitus
Metformin	1700 mg	Daily	Diabetes mellitus
Omeprazol	40 mg	Daily	Prophylaxis of peptic ulcers
Allopurinol	300 mg	Daily	Gout
Ipratropium			Chronic obstructive lung disease
Salmeterol/fluticason			Chronic obstructive lung disease
Pregabalin	150 mg	Daily	Posttherapeutic neuralgia
Methadon	10 mg	Daily	Posttherapeutic neuralgia
Lactulose	20 cm^3	Daily	Obstipation
Colchicine	1 mg	Daily	Gout

prn, pro re nata (as needed).

This case also illustrates the complexity of identifying and managing an ADE in patients with multiple disorders and simultaneous medication changes. Especially in CHF, recognition may be difficult, as common ADEs of (cardiovascular) medication can be interpreted as symptoms of the disease itself. However, even after the acknowledgement of a possible ADE, satisfactory management can be challenging. Good communication with the patient is essential, since management is not completed with the discontinuation of the causal agent. In addition, this report highlights the need for reporting of possible ADEs to national reporting systems also in complex cases, where the causality may be difficult to assign. Active post-marketing surveillance systems, such as the Prescription-Event Monitoring in the UK or the Lareb Intensive Monitoring in the Netherlands, can be helpful additional strategies [6]. The aim of such systems is to collect data on any significant event that occurs while patients are receiving selected monitored medication, but also on reasons for stopping medication.

In conclusion, this case provides additional evidence to support the precautionary information and recommendation that clinicians should be cautious in using pregabalin in CHF patients, particularly in patients with left ventricular systolic dysfunction.

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