Respiratory failure is a common complication of Guillain-Barré syndrome (GBS). Hypoventilation is usually due to respiratory muscles weakness or impaired bulbar function, or both. The most important advances in the treatment of GBS have been positive pressure ventilation introduced during the European poliomyelitis epidemics of the 1950s. This has enabled patients with respiratory failure to survive until they have recovered from paralysis. Mortality in ventilated patients ranges from 15–30% and survivors usually have a poor outcome. The requirement for long-term respiratory support is unusual; most patients are weaned from assisted ventilation within three weeks from the onset of GBS. Nevertheless, a few patients require longer periods of assisted ventilation and their eventual recovery may be prolonged. The management of this challenging group of patients is rarely reported.

Case report
We report the case of a 60-year-old man who developed numbness in the feet following a diarrhoeal illness. He then developed weakness of his upper and lower limbs. Electrophysiology showing axonal damage and CSF findings confirmed the diagnosis of GBS, and antibodies to Campylobacter jejuni were positive. The patient failed to respond to either immunoglobulin therapy or plasma exchange; within 10 days he had paralysis of the respiratory muscles and lower cranial nerves and was admitted to intensive care where he was intubated and ventilated.

Autonomic paralyses lead to several problems with labile blood pressure, arrhythmias and heart failure. The patient also developed nephrotic syndrome. A renal biopsy showed a focal segmental glomerulosclerosis (FSGS). The patient remained in intensive care for seven months and then was transferred to a spinal injury unit.

During the following months the medical problems started to settle slowly. Seventeen months post onset, the patient started to show signs of neurological improvement and attempts were made to wean him off the ventilator. However, after a short period of managing to trigger the ventilator, his neurological impairment deteriorated, setting him back both physically and psychologically.

Twenty-one months after the onset, he began again to improve and he was successfully weaned from the ventilator during the following month. He slowly regained his swallowing function and some power in the upper and lower limbs. Two months later he was transferred to a rehabilitation ward where he started to stand with help, and regained full continence and hand function.

Unfortunately, the patient relapsed again six months later and for the following year he needed occasional ventilatory support. He eventually passed away due to pulmonary oedema resulting from renal insufficiency.

Discussion
Mechanical ventilation is required in 20–30% of patients with GBS. Winer et al. reported a series of 100 GBS patients, none of whom needed ventilatory support for more than six months. A few cases reported ventilation for up to one year. Henderson et al. reported a series of 114 GBS patients admitted to intensive care, four of whom needed ventilation for more than six months. The longest period of assisted ventilation, followed by successful weaning, that we could find was 18 months. Henderson et al. reported a series of 114 GBS patients admitted to intensive care, four of whom needed ventilation for more than one year. The longest period of assisted ventilation, followed by successful weaning, that we could find was 18 months. Henderson et al. reported a series of 114 GBS patients admitted to intensive care, four of whom needed ventilation for more than one year. No information was given regarding the final outcome of these patients, with the exception of one patient who could only be completely weaned from nocturnal ventilation after five years. The period of mechanical ventilation before weaning in our case is one of the longest reported.
Most of the complex medical problems such as arrhythmias, labile blood pressure and heart failure were mainly due to autonomic neuropathy. The relationship between membranous glomerulonephritis and GBS is well established and a common immunopathogenesis has been suggested.8

On the other hand, the relationship between GBS and focal segmental glomerulonephritis seems anecdotal with only two case reports from the 1990s documenting this relationship between GBS and FSGS.9,10 Our patient behaved similarly to these cases, showing improvement in the kidney function as he recovered from his GBS. Eventually, the deterioration in both renal and neurological states led to the patient’s death.

The place where patients such as ours should be managed is controversial. Most intensive care units are accustomed to patients with parenchymal pulmonary diseases or those who need surgical or postoperative respiratory care. It is unrealistic to expect intensive care units to meet the needs of patients with respiratory muscle paralysis for long periods, especially the rehabilitation and psychological aspects of management. We found that spinal injury units have the best facilities that are able to address the complex issues that such patients need. We also feel that, in the case of continuing need for ventilatory support in the community, spinal injury units will have the necessary experience to arrange smooth discharge plans as few of their patients have the same needs once in the community.

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Declaration of interests
There are no conflicts of interest declared.

References