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Case Report

Management of Pneumonia in Myasthenia Gravis in the Intensive Care Unit: A Case Report

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ABSTRACT

Myasthenia gravis (MG) is an autoimmune disorder affecting the neuromuscular junction. This condition is often associated with respiratory and bulbar muscles and increases the risk of aspiration and respiratory failure. Studies have shown that respiratory issues, such as pneumonia, may lead to higher morbidity and mortality. A 54-year-old woman was admitted to an intensive care unit (ICU) due to myasthenic crisis triggered by pneumonia. Her condition was complicated by progressive dyspnea, dysphagia, recurrent choking, and cough. After admission, she exhibited respiratory issues (a PF ratio = 265) while receiving high-flow nasal cannula (HFNC) support, and elevated procalcitonin levels. Because the ROX index keeps declining, she decided to undergo elective intubation and received mechanical ventilation. The treatment was initially administered using pressure-controlled settings, followed by an adaptive support mode. Sputum culture identified Acinetobacter baumannii and Streptococcus pneumoniae, which were sensitive to cefoperazone–sulbactam. After 14 days of the regimen, there was a gradual clinical improvement and a decrease in procalcitonin levels. The patient also received pyridostigmine dosing, intravenous methylprednisolone, plasma exchange, and enteral nutrition. Due to prolonged ventilator dependence, a percutaneous dilatational tracheostomy was performed, facilitating successful weaning and transfer to a lower-care unit. This case highlights the importance of early recognition of HFNC failure, timely transition to invasive ventilation, and integrated multidisciplinary management (immunologic, antimicrobial, ventilatory, and nutritional strategies) in patients with myasthenic crisis complicated by pneumonia.

Introduction

Myasthenia gravis (MG) is an autoimmune disorder of the neuromuscular junction. It involves respiratory and bulbar muscles, which increases the risk of aspiration and respiratory failure [1]. Pneumonia is deemed a major cause of hospitalization and death in MG [2]. This case report details the intensive care management of a myasthenic crisis triggered by pneumonia, which resulted in acute respiratory failure.

Case Report

A 54-year-old woman with MG presented with one month of progressive dyspnea, dysphagia, repeated choking, and cough. She was diagnosed with aspiration pneumonia and suspected myasthenic crisis. The clinical course in the ICU was documented through serial

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examinations, arterial blood gases, imaging studies, laboratory tests, sputum culture, ventilator data, and nutritional records.

Results

On admission, the patient presented with respiratory distress with markedly raised procalcitonin and a PF ratio of 265 on high-flow nasal cannula (HFNC).

Despite the escalation of HFNC, the ROX index continued to decline, and she was electively intubated and ventilated with pressure-controlled and then adaptive support modes. The PF ratio initially worsened before gradually improving and eventually exceeding 300. The sputum culture grew Acinetobacter baumannii and Streptococcus pneumoniae, which were sensitive to cefoperazone–sulbactam.

This regimen was continued for 14 days, during which procalcitonin decreased. She also received pyridostigmine dosing, intravenous methylprednisolone, plasma exchange, and enteral nutrition.

The patient's respiratory condition caused her to use a prolonged ventilator. Thus, a percutaneous dilatational tracheostomy was administered, allowing her subsequent weaning and a transfer to a lower-care unit.

Discussion

This case illustrates how patients with myasthenic crisis and acute respiratory failure worsened when they experienced aspiration pneumonia. Thus, when predefined criteria are met, a timely transition from HFNC to invasive ventilation is necessary [2-6].

Management that followed recommended approaches has been proven effective in mitigating myasthenic crisis and severe pneumonia. Such management combines pressure-regulated lung-protective ventilation, anticholinesterase therapy, corticosteroids, plasma exchange, and targeted beta-lactam therapy. The combination of these therapies is directed to alleviate the MG symptoms [1-8].

Conclusion

Integrated ventilatory, immunologic, antimicrobial, and nutritional strategies, together with timely tracheostomy, led to gradual clinical improvement and successful weaning in this patient with pneumonia-triggered myasthenic crisis.

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