Acute Respiratory Failure After Cesarean Section In Patient With Systemic Lupus Erythematosus (SLE) Due To Myasthenia Gravis: A Case Report

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Background

Myasthenia gravis is an autoimmune (MG) disease characterized by forming autoantibodies against the acetylcholine postsynaptic receptors (AChR). The clinical presentation of MG is the presence of muscle weakness that worsens with activity and improves on rest. Respiratory insufficiency usually develops in late stages of the disease. Systemic lupus erythematosus (SLE) is also an autoimmune disease where body produces antibodies against healthy organ tissues. The most common manifestations include rash, arthritis and fatigue. It is very rare for these two autoimmune diseases to coexist in one patient but it is possible¹.

Case Report

A 22 year old woman with previously diagnosed SLE was admitted in our Intensive care unit (ICU) from another hospital because of acute respiratory failure. The woman delivered her baby with caesarean section under general anaesthesia eight days before.

the next days she was complaining of neck muscle weakness and signs of nasal speaking which led to respiratory insufficiency. She wasn't taking any medication for SLE during her pregnancy. Patient was sedated, intubated and MRI of brain and cervical

was 137/77mmHg, heart frequency rate 133/min with no evidence of upper and lower extremities weakness. Initial laboratory findings revealed white cell $12.1 \times 10^9/L$, red blood cell $3.94 \times 10^{12}/L$, haemoglobin 111 g/L, haematocrit 34.8%, platelet $296 \times 10^9/L$, CRP 25.1 mg/L, Na 141 mmol/L, K 4.7 mmol/L, Ca 2.12 mmol/L, lactates 1.5 mmol/L, glucose 8.4 mmol, BUN 1.9 mmol/L; creatinine 44 $\mu\text{mol/L}$, albumins 23 g/L (ref. 35-50 g/L), globulins 30 g/L (ref. 27-35 g/L), total proteins 53 (ref. 62-82 g/L), ABS: pH 7.308, $p\text{CO}_2$ 7.08 kPa, $p\text{O}_2$ 9.84 kPa, HCO_3^- 25.9 mmol/L, EB -1.1 mmol/L, sO_2 92.7%. The chest computed tomography (CT) scan showed no evidence of pulmonary thromboembolism or thymic hyperplasia and thymoma. Prostigmin test was positive so therapy with pyridostigmine bromide 300 mg/day and solu medrol 40 mg/day along with plasmaferesis. The acetylcholine receptor (AChR) antibody came back elevated >8.4 (>0.5 nmol/l positive). After second plasmaferesis she was breathing sufficiently so she was extubated. She was dismissed after 13 days.

Image 1. Chest X-ray on ICU admission

Image 2. Chest X-ray after two days

After prolonged awakening period of five hours she was extubated. Her newborn was hypotonic with lack of facial expression and had eating difficulties such as regurgitation. In the next week all symptoms resolved. In

spine was made showing no pathological signs. On the next day she was transferred in our ICU. On the admission she was conscious and fully alert (no sedation), intubated, breathing spontaneously, blood pressure

Discussion

Myasthenia gravis (MG) and Systemic lupus erythematosus (SLE) are both autoimmune diseases with different cause and course of the disease but they can precede or coexist. This coexistence might cause a more severe myasthenic course compared to MG alone.² Both diseases are more frequent in woman. The clinical onset of myasthenia gravis is also more frequent during the postpartum period,

particularly after a first child.^{3,4} Myasthenic crises with acute respiratory failure usually develop in late stage of the disease. However, in some patients respiratory failure is the initial presenting symptom.⁵ In our case woman developed myasthenic crises with respiratory failure. Clinical onset of MG with rapid progression to respiratory failure happened in postpartum period.

Conclusion

Rare coexistence of MG and SLE may cause more severe myasthenic course to MG alone. Women in the postpartum period have a high-risk for the onset of clinical symptoms of MG, in particular after the first childbirth.

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