MRNA-1273

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Rhabdomyolysis and injection site pain: case report

A 85-year-old Caucasian woman developed rhabdomyolysis and injection site pain following mrna-1273 vaccination for COVID-19.

The woman had a medical history of rheumatoid arthritis, hyperlipidaemia, asthma and cerebrovascular accident (CVA). Two days after receiving second dose of mrna-1273 injection [MODERNA COVID-19; *route not stated*], she presented with generalised weakness, loss of appetite and muscle cramps. She had received the first dose of the mrna-1273 30 days before receiving the second dose, which was tolerated well except for minor pain at the injection site. However, she started to feel weak the same afternoon after the second dose. Subsequently, she completely lost her appetite and experienced nausea. Moreover, she noticed her urine color changing from dark brown to black on the same day of receiving the vaccination. The next day, her weakness deteriorated along with muscle and abdominal cramps. Her home medications included metoprolol, clopidogrel, rosuvastatin, nifedipine, tofacitinib, telmisartan and trazodone. Clopidogrel and trazodone were started about 2 months before the admission when she had a stroke. For the past 2 months, she was undergoing professional physiotherapy. Her family history was positive for autoimmune disease in maternal grandmother. She had no previous history of tobacco or alcohol abuse or contracted COVID-19 prior to this admission. She appeared exhausted without gross motor sensory deficits on admission, hypoactive bowel sounds, and generalised mild abdominal tenderness to superficial and deep palpation. Her vital signs remained stable, and the blood work onrevealed significantly elevated serum creatinine of 6.0 mg/dL, blood urea nitrogen (BUN) of 73 mg/dL and significantly decreased glomerular filtration rate (GFR) of 6 mL/min and bicarbonate of 13 mmol/L. She also had abnormally elevated liver function with aspartate aminotransferase (AST) of 1422 U/L, alanine aminotransferase (ALT) of 600 U/L and alkaline phosphatase of 600 U/L. Her creatine phosphokinase (CPK) level was found to be extremely elevated at >14000 U/L. Troponin levels were 0.18 ng/mL, followed by 0.21 ng/mL and 0.20 ng/mL. Urinalysis was positive for 3+ blood, negative for red blood cells (RBCs) and showed >5000 mcg/mL myoglobin. Further investigation revealed an aldolase level of 353 U/L, but it was falsely elevated due to haemoglobin contamination secondary to haemolysis. She was confirmed with rhabdomyolysis secondary to mrna-1273 vaccination. She was treated with bicarbonate-rich IV fluids, however, aggressive hydration was not possible, as she was also found to have heart failure with preserved ejection fraction in exacerbation (pro-BNP: 1388 pg/mL on admission followed by 6260 pg/mL upon recheck. An ECG revealed an ejection fraction of 55– 60% with diastolic dysfunction. During the hospitalisation, she became progressively weaker to a point where she could not even lift/move her hands or legs. Her mental status decline with intermittent confusion or hallucinations. She developed 3+ pitting oedema over the bilateral upper and lower extremities. A chest CT revealed complete consolidation and volume loss of the right lower lobe, volume loss of the left lower lobe, partial consolidation, mild ascites and moderate anasarca. She was treated with unspecified broadspectrum antibiotics. An urgent temporary dialysis catheter was inserted and she subsequently received haemodialysis secondary to hypoxia from pleural effusion/anasarca and oliguria/renal failure. After neurological evaluation, she was started on empiric unspecified glucocorticoids owing to concerns of myositis, secondary to no improvement in her strength. Subsequently, she was transferred to the ICU, initially on bilevel positive airway pressure/ intermittent high-flow oxygen, but later intubated on ventilator support. The CPK levels continued to remain higher than the normal limit. She ulltimately had a cardiac arrest with subsequent fixed and dilated pupils causing suspicion of hy poxic/anoxic brain injury. Her family decided palliative care as best to increase her comfort and care. She was terminally extubated and died the same day [*cause of death not stated*].

Ajmera KM. Fatal case of rhabdomyolysis post-covid-19 vaccine. Infection and Drug Resistance 14: 3929-3935, Jan 2021. Available from: URL: https://www.dovepress.com/getfile.php?fileID=73985