

Introduction:

Lactate is a metabolic end product of anaerobic glycolysis and is produced by the reduction of pyruvate in a reaction catalyzed by LDH enzyme. Most common cause of lactic acidosis which we encounter in Emergency department are SHOCK, SEVERE HYPOXAEMIA, SEVERE ANAEMIA, SEPSIS, LIVER FAILURE and DRUGS. Lactate can also increase in seizures during increase muscle activity. Lactic acidosis occurs within minutes of a convulsive episode and usually resolve within 1 hour.

Case Summary :

My patient is a 57yrs/ F with past history of Type2 diabetes mellitus, Hypertension, Coronary Artery Disease (Triple Vessel Disease with Post PTCA) was brought to emergency department with c/o up rolling of eyes followed by unresponsiveness.

On Examination:

GCS : E1VIMI

PUPIL: B/L 2mm reacting to light

Chest : B/L Clear

CVS : S1S2 Normal

Abdomen : Soft , bowel sound +

Temperature : 36.4 degree C

BP : 180/100

PR : 73/ min

SpO2 : 100% with high flow O2

RBS : 162 mg/ dl

ABG :

Ph=7.26

PaCO₂ = 38

PaO₂ = 565

HCO₃ = 17.3

Na⁺ = 136

K⁺ = 3.6

Lactate = 6.34

Patient was immediately intubated with inj Etomidate 20 mg and inj Rocuronium 50 mg with modified RSI technique and Midazolam was started as infusion.

Within 24 hours patient became conscious, Lactate came to the normal range and she was extubated. She was evaluated by the team of cardiologist and neurologist. The cause of her unresponsiveness was found to be seizure which was resolve after getting proper resuscitation and anti-epileptic.

CONCLUSION:

1. We should consider seizure as a differential diagnosis for high Lactate in Emergency department if other common causes like severe hypoxia, severe shock, sepsis, liver failure, drugs are ruled out¹.
2. The determination of the Lactate value as a point of care diagnostics appears to be highly relevant in the rapid clarification of unclear episodes with transient loss of consciousness.
3. The diagnostic clarification of disorders of consciousness is often challenging, particularly distinction between epileptic and nonepileptic seizures.
4. Serum lactate levels in acute diagnosis were an excellent biomarker for the discrimination of generalized seizures from psychogenic nonepileptic and syncopal events.

References:

2016 Aug;40:71-5. doi: 10.1016/j.seizure.2016.06.014. Epub 2016 Jun 23. **Lactate as a diagnostic marker in transient loss of consciousness.** [Matz O¹](#), [Zdebik C²](#), [Zechbauer S²](#), [Bündgens L³](#), [Litmathe J²](#), [Willmes K²](#), [Schulz JB⁴](#), [Dafotakis M²](#).

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