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# Uncommon Clinical Presentation of Serum Potassium Level

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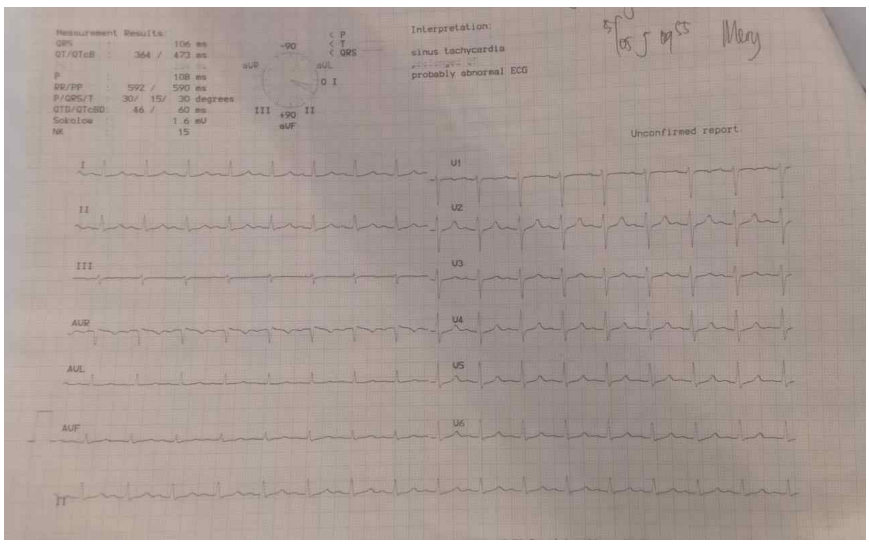
**Case Study:**

Potassium is one of the body's important electrolytes. Potassium is major intracellular cells. Potassium is necessary for functioning of cells, nerves and muscles. Alteration in potassium level is one of the most common acute life threatening metabolic emergencies. Severe hyperkalemia and hypokalaemia can have dramatic effects on cardiac cell conduction because potassium's role for maintaining electrical potential across cell membrane, depolarisation and repolarization of myocytes. Potassium alteration may lead to electrocardiographic (ECG) changes. We described two cases of severe hypokalaemia and severe hyperkalemia. First case, a patient presenting with acute coronary syndrome (ACS). Primary Percutaneous Coronary Intervention (PCI) was done. Upon angiography, the patient developed electrical storm, defibrillation was done more than ten times to get sinus rhythm, during recovery in High Care Unit (HCU), another electrical storm was recurred. Laboratory workout was found to be severe hypokalemic, 2.2 milliequivalents per liter. This is unique because there is an occasional report of severe hypokalaemia leading to electrical storm. Second case, a patient presenting with weakness and was found to have acute kidney disease with severe hyperkalemia. Laboratory workout showed severe hyperkalemic 8.7 milliequivalent per liter with normal electrocardiographic finding. During observation of this patient in Emergency Department (ED), there was no other significant findings. This patient never had any history with kidney disease. This is uncommon due to presentation of severe hyperkalemia without any electrocardiographic changes. As physician we should always aware that electrolyte imbalance can worsen ACS, ECG not always be reliable indicator of severe hyperkalemia and life threatening elevations of serum potassium levels are sometimes seen in the absence of ECG changes.

ECG-Hyperkalemia



ECG Hypokalemia in ACS

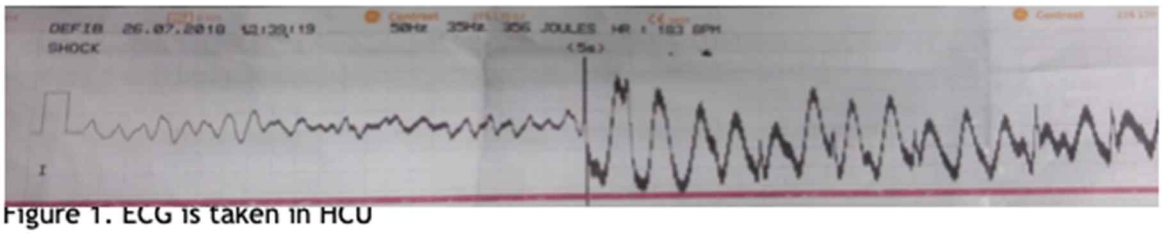



Figure 1. ECG is taken in HCU

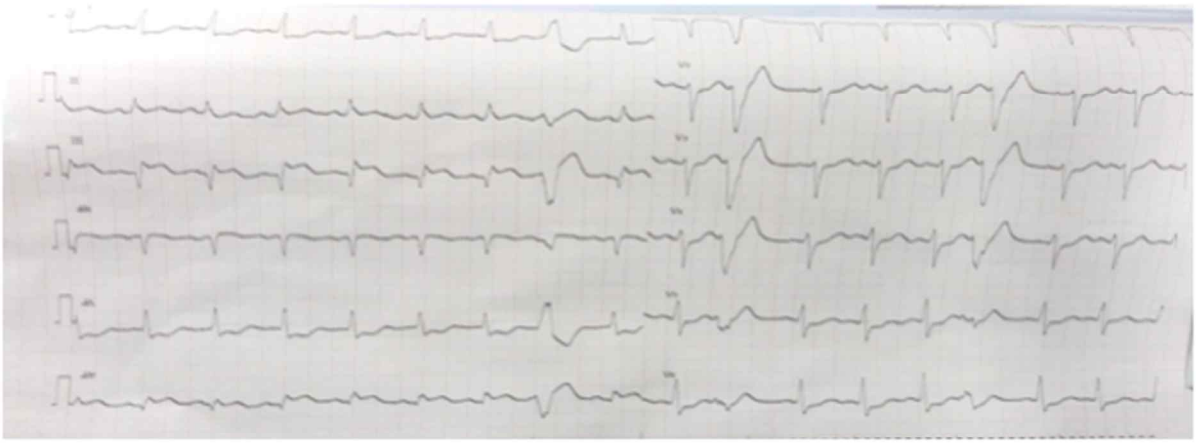


Figure 2. ECG at presentation in ED

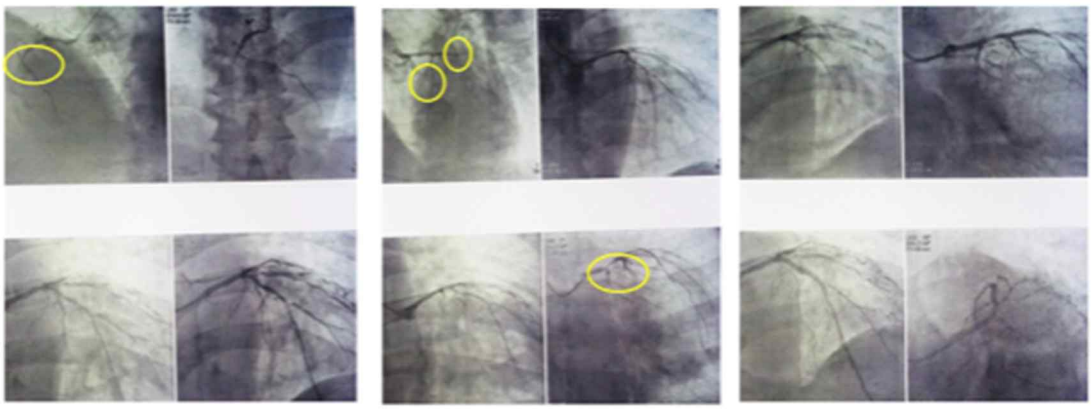


Figure 3. DCA- PCI