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Severe hyperkalemia caused by propranolol in hemodialysis patients

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Case Study: We describe the reported case of propranolol induced hyperkalemia in a hemodialysis patient.
Patient has been on hemodialysis for 3 years with hypertension and diabetics. He was hospitalized for the treatment of bilateral diabetic foot ulcer.
A week after the hospitalization, the patient complained of symptoms of mild anxiety and both leg tremor. For that reason, he was consulted by a neurologist and taked a propranolol 10mg twice a day. Evening day after taking medication, the patient's blood pressure and O2 saturation was decreased. Soon after, he lost consciousness. We found bradycardia on the EKG and hyperkalemia (7.6mg/dl) on Laboratory tests. We were diagnosed with unknown caused hyperkalemia. The patient was immediately initiated on antihyperkalemia measures, were the dose was guided by clinical response.
Calcium gluconate, insulin-dextrose solution infusion were administered and emergency hemodialysis was performed. Serum potassium levels subsequently normalized after 4 hours of hemodialysis. The patient showed rapid clinical improvement, without the requirement of hemodialysis. We confirmed that there was no problem with Brain CT and that the vital sign and EKG rhythm were normal.
We diagnosed hyperkalemia due to the intake of high potassium foods because patient had many fruits at dinner. So, the patient kept fasting until morning however allowed to take the medicine. But the next morning, patient feeled chest discomfort. Hyperkalemia was confirmed on laboratory test. EKG showed bradycardia. The patient performed hemodialysis again for 4 hours. after that, the patient showed clinical improvement again. We noticed that the patient was taking propranolol recently. Immediately we stopped the drug and observed the patient. After propranolol discontinuation, hyperkalemia did not occur. The patient then resumed diabetic foot ulcer treatment and was discharged two months later.

Figure 1. K fructuation