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Rotenone-Containing Plant Intoxication

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A 64-year-old female with the history of type II diabetes, hypertension, chronic kidney disease and old cerebral vascular accident (CVA) were sent to the emergency room due to consciousness disturbance. According to her family, she ate 10 pods of beans from neighbor, and soon after developed nausea, vomiting and diarrhea. Later, she became unarousable and foaming saliva in mouth. Negative any new intracranial lesions found by brain computerized tomogram (CT) were noted; however, the lab data indicated metabolic acidosis with respiratory compensation. The bean brought with her was identified as yam bean, *Pachyrhizus erosus*, after checking with the pictures of internet. Based on the laboratory finding and the history of exposure, she was diagnosed as rotenone-containing plant intoxication. Her husband ate less than 4 pods suffered from mild degree of nausea, vomiting and cramping abdominal pain. The patient got stable condition and acidosis was corrected after 2 days' treatment. This plant is very poisonous except the roots, and the seeds contain rotenone, which is used to poison insects and fish. The toxicological mechanism of rotenone is blocking mitochondrial electron transport chain at complex I, leading to the inhibition of aerobic metabolism. The scenario mimics cyanide poisoning, but the antidote of cyanide provides no use in rotenone poisoning. As a result, the proper treatment of rotenone intoxication is supportive care, especially the maintenance of respiratory and cardiovascular functions. Hemodialysis and diuresis may not be effective. Although this patient seemed to be severely poisoned, the amount of rotenone she ingested was less than the reported minimum human lethal dose. In summary, the roots of yam beans could be rich in nutrients and delicious, but the seeds contain rotenone, the toxin that is used to poison insects and fish. The initial signs and symptoms include nausea, vomiting and numbness; then, respiratory distress may occur with CNS depression. The scenario is mimic to cyanide intoxication, but the antidote is not effective; supportive care is recommended.