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## **The challenge of managing multidrug toxicity in geriatric population: a case report**

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### **Introduction**

Geriatric populations are rising around the globe. They are vulnerable for risk of toxicity following polypharmacy ingestion due to preexisting morbidity such as dementia, cognitive impairment, delirium, and depression. We present a case of unintentional multidrug toxicity following amlodipine, bisoprolol, apixaban and metformin ingestion in elderly and its challenge.

### **Case presentation**

83-years-old gentleman with history of diabetes mellitus, hypertension, atrial fibrillation, and major neurocognitive disorder presented with body weakness and vomiting. He stays alone for two days and feel lethargy, hence took large amount of medication with a perception it will help him better. He was found with missing of 22 packets of his medication. He ingested 22 Tablet of Amlodipine 10mg (220mg), 22 Tablet Bisoprolol 5mg (110mg), 22 Tablet Apixaban 5mg (110mg) and 22 Tablet Metformin 500mg (11gram).

Upon arrival he was lethargy, hypotensive and bradycardic. His blood result notable for lactate acidosis, hyperkalemia, and acute kidney injury with prolonged coagulation profile. He was started on noradrenaline infusion and received intravenous (IV) lipid emulsion 20% followed by infusion. However, he develops acute pulmonary edema which required diuretics with a brief episode of seizure without sequelae. He was given IV glucagon and high insulin therapy infusion with closed monitoring. Cocktail regime was given for hyperkalemia and fresh frozen plasma transfusion done to correct his coagulopathy. However, his condition and kidney function deteriorated despite on treatment hence counselled for hemodialysis. Due to patient multiple comorbidity and older age, his family opted not for active resuscitation hence succumbed to his illness after four days of admission.

### **Discussion**

Stabilizing airway, breathing and circulation is important in any resuscitation with early initiation of specific treatment. In this case, IV glucagon, IV Calcium gluconate and high dose insulin plays a role in treatment. Hemodialysis is needed in renal excreted medication as he may be refractory to pharmacologic therapy. However, patient age and multidrug ingestion contribute to complexity in management.

### **Conclusion**

Early recognition of sign and symptom with supportive and specific treatment and multidisciplinary approach are needed to improve patient outcomes especially in vulnerable age group such as geriatrics population.

### **Keywords**

Toxicity , geriatrics