



Adherence to Dosing Guidelines

Patient Case A

Among its many therapeutic uses, acetylcysteine (Mucomyst) is being used commonly in the emergency department (ED) as an antidote for acute acetaminophen (Tylenol) toxicity. The patient was being treated for acetaminophen overdose (toxicity) and had received Mucomyst, dose of 48mg/kg IV in the ED. The admitting doctor wrote a follow-up order for 12.5mg/kg to be given as a second dose and 6.25mg/kg to be given as the 3rd dose. According to the standard dosing per Poison Control Center, Mycomyst should be dosed as follows:

1st dose- 150mg/kg

2nd dose- 50mg/kg

3rd dose- 100mg/kg

The PipelineRx pharmacist received the medication order and contacted the nurse and confirmed that the patient had only received 48mg/kg of Mucomyst for the first dose in the ED. The PipelineRx pharmacist informed the nurse that the dose is extremely low and the patient is being underdosed. Due to the uncertainty of the lethal dose of Tylenol and the time lapse after the ingestion, Mucomyst at a total dose of 300mg/kg has to be administered over the course of 21 hours after the discovery of the toxicity. The PipelineRx pharmacist recommended to the patient's physician to redose the patient according to the guidelines or recommend having the PipelineRx pharmacist dose the drug. "Acetylcysteine Dosing per Pharmacy" was written by the physician. The PipelineRx pharmacist gave another dose of 102 mg/kg x1 to complete the 150mg/kg for the first dose, and wrote the subsequent doses as per above.

The result of this was greater efficacy of treatment, faster recovery for the patient and shorter time spent in the hospital.