Risk Management Pitfalls For Cardiotoxicity

1. “I’ll just wait on the digoxin level to guide my treatment.”
   Patients with acute digoxin overdose may be asymptomatic despite an elevated digoxin level if the blood is drawn before it has equilibrated in the tissues. They may manifest toxicity despite a drop in the level when the drug has entered the cell. Clinical evaluation is the most important parameter.

2. “The bradycardia and hypotension did not resolve after administering digoxin immune Fab. I’ll just give more.”
   Do not forget to rule out other cardiotoxic medications as potential causes for the clinical scenario you are encountering. Particularly in patients with suicidal ingestion, multiple agents may be contributing to the clinical scenario.

3. “I thought for sure this was a poisoning!”
   Do not forget to rule out other etiologies of the patient’s clinical picture.

4. “Is there really any harm in administering calcium to the patient with digoxin toxicity?”
   Despite new evidence showing (potentially) no harm, treat these patients with digoxin-specific antibodies, and avoid the risk of calcium.

5. “I treated my patient with digoxin immune Fab, and now the serum level is higher than before! Now what do I do?”
   After administration of digoxin immune Fab, serum concentration measurements of digoxin are no longer useful. Use the patient’s clinical picture to guide whether the patient requires further digoxin immune Fab treatment.

6. “I was worried about giving so much insulin.”
   Patients with either calcium-channel blocker or beta blocker toxicity may require very high doses of insulin (up to 1 U/kg/h, which is 70 U/h in a 70-kg patient).

7. “The patient was acting bizarre and having vision changes, but he had a normal ECG. It couldn't have been digoxin toxicity.”
   Do not forget the extracardiac manifestations with chronic digoxin toxicity, which may be the actual presenting complaint of the patient.

8. “Shouldn't we have lipid emulsion as a rescue drug?”
   Be sure your ED has lipid emulsion in stock. If it is needed, it is needed quickly.

9. “The patient’s magnesium was low, but that shouldn't have mattered, should it?”
   Remember the potential role of hypomagnesemia in chronic digoxin toxicity. Hypomagnesemia and hypokalemia can sensitize the myocardium, even at therapeutic levels of digoxin. Hypomagnesemia can also increase myocardial digoxin uptake, so it is critical to ensure normal serum magnesium levels. Magnesium should also be administered in patients presenting with sotalol toxicity and prolonged QTc before they go into torsades de pointes.

10. “I wasn't sure who to call for help.”
    Cardiovascular medication poisonings are complicated to manage, and some treatment options are unfamiliar to the treating staff and physician. Call your local poison center or toxicologist for guidance.
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