



XZ is transferred to the ICU, and, after three days, she has some improvement. She no longer requires pressor support and is able to answer questions now. Her renal function has also improved as demonstrated by increased urine output and a SCr of 1.2 mg/dL. After being moved to the ICU and receiving an initial dose of tobramycin, she was continued on a regimen of 120 mg q 12 h. To ensure that her renal function continues to improve and to make sure the bacteremia is being treated appropriately, you order tobramycin levels to ensure they are in the appropriate therapeutic range. (She has received 5 dose so far; assume she is at steady state).

The lab reports the following data:

Tobramycin trough at 0815: **1.3 mg/L**

Tobramycin peak at 1030: **9.9 mg/L**

After talking to the nurse, you find out that the next dose was given at 0900 and infused over one hour, per hospital aminoglycoside policy.

3) What is XZ's tobramycin elimination rate constant?

A discussion with the physician yields that she wishes to target a peak of 9 mg/L and a trough of 1 mg/L, and you agree that this is appropriate.

4) What is XZ's volume of distribution?

5) What dose and dosing interval should you recommend to achieve these levels in XZ?