

### QUESTION

1. A patient with a long history of chronic alcohol consumption presents to the emergency department with acute abdominal pain, vomiting, and confusion. The patient's vital signs are stable, and physical examination reveals mild tachycardia and hyperreflexia. Laboratory studies show a serum ammonia level of 100 µg/dL, a serum lactate level of 4.5 mmol/L, and a serum acetaminophen level of 0.1 µg/mL. The patient's arterial blood gas (ABG) shows a pH of 7.35, a pCO<sub>2</sub> of 35 mmHg, and a bicarbonate level of 20 mmol/L. The patient's urine toxicology screen is positive for alcohol and negative for other substances. The patient's medical history is significant for chronic alcoholism, hypertension, and type 2 diabetes mellitus. The patient's current medications include metoprolol and metformin. The patient's family history is unremarkable. The patient's social history is significant for a 30-year history of heavy alcohol consumption (approximately 80-100 grams of alcohol per day).

Parameter	Value
Ammonia	100 µg/dL
Lactate	4.5 mmol/L
Acetaminophen	0.1 µg/mL
pH	7.35
pCO <sub>2</sub>	35 mmHg
HCO <sub>3</sub> <sup>-</sup>	20 mmol/L

2. A patient with a long history of chronic alcohol consumption presents to the emergency department with acute abdominal pain, vomiting, and confusion. The patient's vital signs are stable, and physical examination reveals mild tachycardia and hyperreflexia. Laboratory studies show a serum ammonia level of 100 µg/dL, a serum lactate level of 4.5 mmol/L, and a serum acetaminophen level of 0.1 µg/mL. The patient's arterial blood gas (ABG) shows a pH of 7.35, a pCO<sub>2</sub> of 35 mmHg, and a bicarbonate level of 20 mmol/L. The patient's urine toxicology screen is positive for alcohol and negative for other substances. The patient's medical history is significant for chronic alcoholism, hypertension, and type 2 diabetes mellitus. The patient's current medications include metoprolol and metformin. The patient's social history is significant for a 30-year history of heavy alcohol consumption (approximately 80-100 grams of alcohol per day).

### ANSWER



### EXPLANATION

1. A patient with a long history of chronic alcohol consumption presents to the emergency department with acute abdominal pain, vomiting, and confusion. The patient's vital signs are stable, and physical examination reveals mild tachycardia and hyperreflexia. Laboratory studies show a serum ammonia level of 100 µg/dL, a serum lactate level of 4.5 mmol/L, and a serum acetaminophen level of 0.1 µg/mL. The patient's arterial blood gas (ABG) shows a pH of 7.35, a pCO<sub>2</sub> of 35 mmHg, and a bicarbonate level of 20 mmol/L. The patient's urine toxicology screen is positive for alcohol and negative for other substances. The patient's medical history is significant for chronic alcoholism, hypertension, and type 2 diabetes mellitus. The patient's current medications include metoprolol and metformin. The patient's social history is significant for a 30-year history of heavy alcohol consumption (approximately 80-100 grams of alcohol per day).