

QUESTION

1. A patient with a long history of chronic obstructive pulmonary disease (COPD) is admitted to the hospital with an acute exacerbation. The patient is currently on a long-term low-dose inhaled corticosteroid and a long-acting beta₂-agonist. The patient's current symptoms include increased sputum production, dyspnea, and wheezing. The patient's oxygen saturation is 88% on room air. The patient's arterial blood gas (ABG) shows a pH of 7.35, a partial pressure of carbon dioxide (P_aCO₂) of 45 mmHg, a partial pressure of oxygen (P_aO₂) of 60 mmHg, and a bicarbonate (HCO₃⁻) of 28 mEq/L. The patient's chest X-ray shows hyperinflation and flattened diaphragms. The patient's current treatment includes oxygen therapy, inhaled corticosteroids, and long-acting beta₂-agonists. The patient's current symptoms are consistent with an acute exacerbation of COPD. The patient's current treatment is appropriate. The patient's current symptoms are consistent with an acute exacerbation of COPD. The patient's current treatment is appropriate.

Parameter	Normal Range	Current Value
pH	7.35 - 7.45	7.35
P _a CO ₂	35 - 45 mmHg	45 mmHg
P _a O ₂	80 - 100 mmHg	60 mmHg
HCO ₃ ⁻	22 - 28 mEq/L	28 mEq/L

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