CPER digest February 2018

You arrive at a residence to find an 84 year old female patient sitting on the edge of her bed in obvious respiratory distress, 2 word dyspnea, intercostal in-drawing, intermittent chest discomfort with a cough over a few days, uncontrollable tremors, slight abdominal distension, pitting edema to the left ankle and decreased air entry bilaterally with fine crackles on the left and expiratory wheezes on the right. The patient states that she had no appetite yesterday and felt chilled when going to bed. She awoke with shortness of breath and took her puffers with no relief. Your assessment reveals the following: HR – 102 bpm, irregular and weak; RR – 38/min, regular and laboured; SpO2 – 84% on RA; BP – 148/78, 12 lead ECG shows A-fib, non-diagnostic of STEMI; Temp – 40.2 tympanic, GCS of 15 but is lethargic and fatigued. The patient has a history of MI, A-fib, angina, COPD, hyperlipidemia, hypertension, lobectomy of middle lobe of right lung and hypothyroidism. She takes Amiodarone, Spiriva, Advair, Crestor, Ventolin, Nitro, ASA and Atrovent. She states that she has no known allergies.

Based on the patient's presentation with reference to the chart below, what would be your treatment plan for this patient? If you said, apply O2, consider the patient for salbutamol via MDI spacer, provide supportive care and transport, you are correct! With the patient presenting with a new, productive cough, shortness of breath, fever, chills and tremors, one-sided crackles, decreased appetite, lethargy, intermittent chest pain with coughing and breathing and the presence of bronchoconstriction (wheezes, intercostal in-drawing, dyspnea), the most appropriate treatment plan for this patient would be based on the patient exhibiting symptoms of pneumonia with exacerbation of her COPD. This patient may also have worsening heart failure although it may not be the most prominent problem.

This case is not easy with possible differentials including COPD, CHF, pulmonary embolus, cardiac ischemia and pneumonia. Gathering a good history from family, the patient, the patient's medications and the environment (over the counter medications, etc.) will assist with determining your treatment plan.

After one salbutamol treatment you reassess your patient. Upon auscultation of the patient's lungs crackles become more evident, prompting a change in management considerations under the

Hamilton Health Sciences
CENTRE FOR PARAMEDIC EDUCATION AND RESEARCH

CPER digest February 2018

Acute Cardiogenic Pulmonary Edema Medical Directive. Changes in the treatment plan need to be well documented to that the critical thinking and rationale for the change is clear.

ASTHMA Inflammation and narrowing of the airways from allergens **Symptoms:** chest tightness, shortness of breath, cough (worse at night or early morning) **Signs:** expiratory wheezes, reduced air entry, prolonged expiratory phase of respiration **Paramedic Treatment:** O2, salbutamol via MDI spacer, epinephrine (prn), supportive care, transport *****Avoid CPAP*****	**PNEUMONIA** Inflammation of the alveoli from an infection causing filling of fluid or pus **Symptoms:** productive cough, fever, chills, chest pain when breathing of coughing, shortness of breath with normal daily activities **Signs:** localized "gunky" crackles or bronchial breath sounds **Paramedic Treatment:** O2, supportive care, transport, may treat with salbutamol via MDI spacer if signs of bronchospasm *****Avoid nebulized medications and CPAP*****
ACUTE CARDIOGENIC PULMONARY EDEMA **Right-sided failure** – the heart can't pump enough blood to the lungs for oxygenation **Left-sided failure** – the heart can't pump enough oxygenated blood to the rest of the body **Symptoms:** shortness of breath after normal daily activities, fatigue, peripheral edema, cough (worse at night or when lying flat) **Signs:** bilateral fine inspiratory crackles worse in the bases, may have wheezes but not prolonged expiration, often hypertensive, may have peripheral edema **Paramedic Treatment:** O2, Nitro, CPAP, supportive care, transport sitting upright *****Avoid treating with salbutamol – increases heart rate and worsens cardiac output*****	**CHRONIC OBSTRUCTIVE PULMONARY DISEASE** **Chronic Bronchitis** – inflammation of the airways, increased mucous production **Emphysema** – decreased elasticity of the alveoli, damage to the alveolar walls **Symptoms:** chronic, productive cough, wheezes, chest tightness, shortness of breath, may be exacerbated by recent pneumonia **Signs:** expiratory wheezes, coarse crackles, reduced air entry, prolonged expiratory phase of respiration **Paramedic Treatment:** O2, salbutamol via MDI spacer, CPAP, supportive care, transport

Hamilton Health Sciences
CENTRE FOR PARAMEDIC EDUCATION AND RESEARCH