Medications

D5 ½ NS continuous @ 65 mL/hr – Electrolyte cations; Electrolyte replacement. Helps to improve electrolyte balance and increase hydration status. Monitor vital signs and lung sounds (Jones, 2021).

Albuterol- Adrenergic; Bronchodilator. Client is taking for shortness of breath and wheezing and to prevent bronchospasm. Monitor potassium level for hypokalemia (Jones, 2021)

Prednisolone- Glucocorticoid; Immunosuppressant. Client is taking to treat uncontrolled asthma. Monitor blood glucose levels for hyperglycemia (Jones, 2021)

Acetaminophen- Nonsalicylate, paraaminophenol derivative; Antipyretic, nonopioid analgesic. Client is taking for mild to moderate pain and to reduce fever. Monitor liver function for hepatotoxicity (Jones, 2021).

Ibuprofen- NSAID; Analgesic, anti-inflammatory, antipyretic. Client is taking to relieve mild to moderate pain and to reduce fever. Monitor CBC for hemoglobin and hemotocrit (Jones, 2021).

Demographic Data

Admitting diagnosis: Status asthmaticus

Psychosocial Developmental Stage: Industry vs. Inferiority

Cognitive Development Stage: Preoperational

Age of client: 6 years old **Sex:** Male

Weight in kgs: 22.9 kg

Allergies: PCN- rash; Strawberries- rash

Date of admission: 02/16/22

Admission History

6 year old male brought to the ER by his mother on 02/16/22 complaining of chest pain. The client rated his pain a 2 out of 10 on a numeric pain scale. Mother states that client has been having some "difficulty breathing, wheezing, and shortness of breath". Mother has administered home medications of albuterol nebulizer with little to no relief in clients' symptoms.

Pathophysiology

Disease process: Asthma is a chronic inflammatory disease that causes episodes of spastic reactivity in the bronchioles (Capriotti, 2020). Asthma can be triggered by viral infections, exercise, and inhaled chemicals. Multiple asthma attacks can lead to proliferation of respiratory epithelium and hypertrophy of respiratory smooth muscle (Capriotti, 2020). The client is experiencing status asthmaticus which is a complication of asthma. Status asthmaticus is a persistent bronchoconstriction that endures using medication to treat (Capriotti, 2020). If not treated it can potentially be fatal.

S/S of disease: Clinical manifestations of asthma include wheezing, coughing, dyspnea, and chest tightness (Capriotti, 2020). This client is experiencing all of these symptoms. Clients could also experience increased respirations and increased heart rate. The clients respirations were increased. If asthma is caused by allergies symptoms could include nasal edema, nasal polyps, rhinorrhea, and oropharyngeal erythema (Capriotti, 2020).

Method of Diagnosis: In order to diagnose, past medical history is examined and a physical exam will be done. A pulmonary function test will be done which measures forced expiratory volume and forced vital capacity when breathing (Capriotti, 2020). When experiencing exacerbations chest x-rays may be done to rule out other causes of symptoms.

Treatment of disease: Treatment includes environmental control, medication, management of comorbidities and patient education. Medications to treat include bronchodilators and glucocorticosteroids, which the client is taking (Capriotti, 2020). Supplemental oxygen is given to improve oxygenation. Environmental control and patient education could be used to prevent future exacerbations.

Relevant Lab Values/Diagnostics

Chest X-Ray 2/16/22- Negative for infiltrates, positive for hyperinflation. Ordered to rule out causes of symptoms, pneumonia or other

Hct 44.8 (Normal reference range 32-44)- Slightly elevated due to dehydration (Pagana et al, 2021)

Eosinophils 9.1 (Normal reference range 0-4)- Elevated due to asthma (Pagana et al, 2021)

Lymphocytes 16.3 (Normal reference range 20-40)- Decreased due to corticosteroid use (Pagana et al, 2021)

Glucose 118 (Normal reference range 70-110)- Elevated due to corticosteroid use (Pagana et al, 2021)

Creatinine 0.86 (Normal reference range 0.3- 0.7)- Elevated due to dehydration (Pagana et al, 2021)

Magnesium 2.7 (Normal reference range 1.5-2.4)- Elevated due to dehydration or causing fluid retention (Pagana et al, 2021)

Medical History

Previous Medical History: Reactive Airway Disease, RSV, bronchiolitis, Positive for Flu B on 2/2/22

Prior Hospitalizations: RSV (2016), Reactive airway disease (2017), Premature at 35 weeks- 2 week stay in NICU

Chronic Medical Issues: Asthma

Social needs: Client lives at home with Mother, sister and grandmother who smokes outside the home.

Active Orders

D/C continuous neb treatment- Respiratory status is improving

Albuterol 2.5 mg q2h via neb, q1h PRN shortness of breath, wheezing – Needed to relax bronchioles if exacerbation occurs

D/C CBC, CMP for today- Monitor electrolytes and dehydration levels

Clear liquid diet- advance as tolerated- due to lungs and dyspnea risk for aspiration

Assessment										
General	**Integument**	**HEENT**	**Cardiovascular**	**Respiratory**	**Genitourinary**	**Gastrointestinal**	**Musculoskeletal**	**Neurological**	**Most recent VS (highlight if abnormal)**	**Pain and Pain Scale Used**
The client is alert and oriented to person, place, time, and situation. The client seemed to be in some distress. The client appeared lethargic. The client is well groomed.	The clients skin is warm, dry and intact. There are no signs of rashes, bruises or wounds. The clients skin turgor is elastic and there is no risk for skin breakdown.	The clients head is normocephalic, no tracheal deviation is present. Her eyes PERRLA, sclera was white and conjunctiva pink. The client's ears are non tender and no drainage or ear pain present. The client's oral mucosa is pink and moist.	S1 and S2 heart sounds heard with a normal sinus rhythm. The clients pulses are 3+ in the upper and lower extremities bilaterally. The client has no edema or jugular vein distention. The client's capillary refill is > 3 seconds in all extremities.	The client had a slight cough, shortness of breath and dyspnea. The client complained of chest tightness and had increased respirations . The client was on 3 L of oxygen via Nasal Cannula. Upon auscultation lung sounds decreased bilaterally and wheezing noted in all lobes.	The clients urine was yellow and clear. The client denied any difficulty or pain when urinating.	The client is on a clear liquid diet that he is tolerating well. The client weighs 22.9 kg. Bowel sounds normoactive in all four quadrants.	The client is able to move all extremities through entire ROM with no deficits. Strength 5/5 bilaterally.	The client is alert and oriented times 4. The client's mental status is fully intact, speech is clear and within normal range. The clients sensation is intact. The clients level of consciousness is alert.	**Time:** 1000 **Temperature:** 98.2 F **Route:** Oral **RR:** 22 **HR:** 96 **BP and MAP:** 98/60 No MAP given **Oxygen saturation:** 93% on 3 L NC **Oxygen needs:** 3 L Nasal Cannula	Pain is 2/10 using faces scale. The pain is described as "chest tightness". Distractions being used.

Nursing Diagnosis 1 Ineffective breathing pattern related to status asthmaticus as evidenced by wheezing and respirations of 22 bpm	**Nursing Diagnosis 2** Risk for electrolyte imbalances related to corticosteroid use as evidenced by glucose level of 118	**Nursing Diagnosis 3** Anxiety related to respiratory distress as evidenced by dyspnea and tachypnea
Rationale If breathing pattern and respiratory system is not monitored, it can lead to worsening conditions. This helps to see if treatment is effective.	**Rationale** Long term corticosteroid use can cause hyperglycemia which reduce fluid levels in your body and lead to dehydration	**Rationale** Feeling short of breath can cause anxiety where the client feels like they are struggling to breathe. Anxiety can show early signs of hypoxia
Interventions **Intervention 1:** Assess respiratory status, rate and depth of respirations and use of accessory muscles **Intervention 2:** Assess oxygenation via pulse oximetry either continuously or before and after respiratory treatment.	**Interventions** **Intervention 1:** Client receiving D5 ½ NS continuously 20 mEq KCl at 65 mL/ hr which will help to replace lost electrolytes **Intervention 2:** Clear liquid diet to replace lost fluids and electrolytes	**Interventions** **Intervention 1:** Monitor oxygen saturation **Intervention 2:** Assess for signs of shortness of breath like gasping for air, tachycardia or restlessness
Evaluation of Interventions	**Evaluation of Interventions**	**Evaluation of Interventions**

Respiratory rate was still 22 bpm during second vital sign check. Pulse oximetry levels stayed consistent at 93% with 3L of oxygen via nasal cannula.	Evaluation of effectiveness unable to be determined until later today when CMP results are back which will give updated results of electrolytes	Evaluation of effectiveness unable to determine due to scenario not giving in depth psychosocial report or most recent vital signs

References (3):

Capriotti, T. (2020). *Davis advantage for pathophysiology* (2nd ed.). F. A. Davis.

Jones & Bartlett Learning. (2021). *2021 Nurse's drug handbook* (20th ed.). Jones & Bartlett Learning.

Pagana, K. D., Pagana T. J., & Pagana T. N. (2021). *Mosby's diagnostic & laboratory test reference* (15th ed.) Elsevier.