Medications

Albuterol HFA 90 mcg/actuation inhaler 2 Puffs PRN 4 hours

Pharm: Adrenergic

Therapeutic: Bronchodilator

Reason: Relax bronchiole muscles, shortness of breath

Assessment: Nurse should assess patients O2 and lungs

Albuterol sulfate 2.5mg/3mL nebulizer solution, PRN 4 hours

Pharm: Adrenergic

Therapeutic: Bronchodilator

Reason: Relax bronchiole muscles, Shortness of breath

Assessment: Nurse should assess patients O2 and lungs

Lab Values/Diagnostics

CO2 32, Normal range 22.0-29.0

MRSA Positive

Sputum screen – no squamous epithelia cells, ,many PMNs, many gram (+) cocci

Lower respiratory culture – large amount of MRSA recovered; moderate amount of gram (-) bacilli recovered with mixed upper respiratory flora

Chest CT – no grossly evident pleural effusion or large infiltrate, chronic findings of cystic fibrosis appear grossly stable when compared to 1-26-22, severity of which severely limits assessment for superimposed acute infiltrate.

Demographic Data

Date of Admission: 3-27-2022
Admission Diagnosis/Chief Complaint: Acute on chronic respiratory failure with hypoxia
Age: 24
Gender: F
Race/Ethnicity: white
Allergies: Penicillin's, Tazicef, Zosyn
Code Status: Full
Height in cm: 157.5 cm
Weight in kg: 53.6 kg
Psychosocial Developmental Stage: Patients ability to communicate is appropriate for stated age
Cognitive Developmental Stage: Patients cognitive level is appropriate for her age
Braden Score: 22
Morse Fall Score: 3
Infection Control Precautions: Isolation (Droplet)

Admission History

24-year-old female with cystic fibrosis presents with worsening shortness of breath for 1 week. Patient has a cough productive green sputum. Patient normally uses 4 L nasal canula but had to increase it to 5L. She states she has some fatigue, chest tightness and wheezing. (Carle database 2022)

Medical History

Previous Medical History: Cystic Fibrosis, Bronchiectasis, MRSA carrier, GERD, GAD/MDD, Migraine

Prior Hospitalizations: Cystic fibrosis exacerbation (1-9-22), (2-9-22), Acute on chronic raspatory failure with hypoxia (11-16-21), Acute Cystic fibrosis with exacerbation due to MRSA/pseudomonas tracheobronchitis (9-7-21)

Previous Surgical History: N/A

Social History: N/A

Pathophysiology

Disease process: Patient has a past diagnosis of chronic respiratory failure with hypoxia. Respiratory failure is characterized by the pulmonary system failing to oxygenate the blood or fails to sufficiently eliminate CO2. This condition makes it very hard for patients to breathe on their own. The patient typically appears in distress and maybe using their accessory muscles. These patients will also have a hard time maintaining normal respiration rates.

S/S of disease: Respiratory failure signs and symptoms are difficulty breathing, shortness of breath especially when active. Coughing up mucous and wheezing. These patients will have a blue tint to the skin, lips or their fingernails. They will also experience fatigue, confusion, and anxiety

Method of Diagnosis: The main methods of diagnosis are, images such as chest x-ray, CT or MRI scans. Bronchoscopy allows for a direct visual of the larynx, trachea, and bronchi. A thoracentesis which is the removal of pleural fluid and then pulmonary function test. These tests evaluate lung volume, residual volume and can tell the difference between obstructive or restrictive diseases.

Treatment of disease: Respiratory failure patients are treated with oxygen therapy or ventilator assisted devices. They are also treated with many different respiratory medications to help lesson symptoms

Active Orders

I & O every shift, this is just monitoring that she has adequate kidney function

Vital signs Q4H, checking vitals this often ensures that the nurses are monitoring her oxygen due to her respiratory issues and its best to do all vitals at once

Activity- increase activity as tolerated, increasing her activity as tolerated so she does not become short of breath even more than what the patient already is.

Physical Exam/Assessment

General:

Patient is alert and oriented x 3, Patient is not in any known distress

Integument:

Patients skin is pink, warm, and dry. There are no lesions, burses, or rashes. Patients skin turgor is normal. Patients Braden score is 22

HEENT:

Patient has normal head shape and size; the neck is supple. Patient has symmetrical, no tracheal deviation, non-palpable thyroid, non-palpable lymph nodes. Pallor, TM bilateral, External ears and nose symmetrical and without lesions, bilaterally. Symmetrical pinas no lesions, bulges, keloids present. No drainage, purulent from canals. Septum is midline, turbinate's are moist and pink bilaterally and no visible bleeding or polyps present, Normal detention is appropriate for patient's age

Cardiovascular:

Clear S1 and S2 sounds without any murmurs, gallops, or rubs. No S3 or S4. Normal sinus rhythm. Peripheral pulses were +2, capillary refills were less than 2. No neck or vein distension or edema

Respiratory:

Bilateral crackles, mild expiratory wheezes, respirations moderately labored on 4L of O2 nasal canula

Genitourinary:

Patients' urine was clear with no odor. Patient has no pain when urinating

Musculoskeletal:

Patients' neurovascular status is normal. ROM of all four limbs is equal and WDL. Patient does not have any supportive devices. Patients' strength is 5/5 and 5/5 but does show signs of fatigue due to respiratory failure. Patient does not need ADL. Patients fall score is a 3, low fall score. Patient is independent and does not need help with equipment and assistance to stand

Neurological:

Patients' orientation is WDL. Patients' mental status was coherent. Equal PERRLA is noted. Patients speech was noticeably clear and understandable

Most recent VS (include date/time and highlight if abnormal):

3-31-22 12:30 pm, BP – 111/57, HR – 97, Temperature- 98.6, Resp – 19, O2 – 97% 4L nasal canula

Pain and pain scale used:

Patient states she is in no pain, it is a 0, on the 0-10 scale

Nursing Diagnosis 1	Nursing Diagnosis 2	Nursing Diagnosis 3
Risk for activity intolerance related to imbalance between oxygen supply/demand as evidence by respiratory condition	**Ineffective breathing pattern related to respiratory muscle fatigue as evidence by dyspnea**	**Risk for impaired gas exchange related to respiratory failure as evidence by Hypoxia**
Rationale **Patient was diagnosed with respiratory failure. One of the main side effects of this disease is being short of breath and relying on oxygen supplementation.**	**Rationale** **Patient showed signs of dyspnea when evaluating her breathing and auscultating her lungs**	**Rationale** **Patient showed signs of poor gas exchange when her breathing was assessed**
Interventions **Intervention 1: Patient will maintain normal O2 levels when having activity** **Intervention 2: Patient will avoid risk factors that may lead to activity intolerance.**	**Interventions** **Intervention 1: Teach patient about pursed lip breathing** **Intervention 2: Administer O2 as ordered**	**Interventions** **Intervention 1: Patient will maintain adequate ventilation** **Intervention 2: Patient will have normal breath sounds**
Evaluation of Interventions **Patient had clear and normal breath sounds and was able to maintain normal O2 levels and avoid risk factors**	**Evaluation of Interventions** **Patient was able to show improved shortness of breath. Patient also was able to purse lip breathe.**	**Evaluation of Interventions** **Patient was able to improve gas exchange, Patient also was able to have normal breath sounds**

References (3) (APA):

Bartlett, & Jones . (2021). *2021 Nurse's Drug Handbook* (12th ed.). Jones & Bartlett Learning, LLC.

Capriotti, T. (2020). *Davis Advantage for pathophysiology: Introductory concepts and clinical perspectives* (2nd ed.). F.A. Davis.

Pagana, K. D., Pagana, T. J., & Pagana, T. N. (2021). *Mosby's Diagnostic and Laboratory Test Reference*. Elsevier.