Long Term Case Study

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## Client History

Patient EG is a thirty-six year old male with an admitting diagnosis of anemia, fever, and suspected sepsis from a long term care skilled nursing facility on 09/06/2020. The patient has no known allergies and is a full code. The client's history shows a history of COVID-19, anoxic brain injury, cardiac arrest, essential hypertension, alcohol dependence and withdrawal, and liver cirrhosis. The patient was hospitalized in March 2020 with COVID, which is when he experienced an anoxic brain injury, total organ failure, and cardiac arrest. The anoxic brain injury resulted in quadriplegia and the patient is nonverbal. In April 2020 the patient was stabilized and sent to a skilled nursing facility. The patient returned for hospitalization from July to August of 2020 for septic shock with multi drug resistant and pan resistant organisms. The patient has developed multiple unstageable pressure ulcers on the lower extremities bilaterally; the patient also has a stage IV decubitus ulcer with osteomyelitis on the sacrum. The patient has been diagnosed with critically ill neuropathy and has been started on modafinil and sinemet. Other notable history is the presence of a deep vein thrombosis in the right upper arm and a hematoma of the iliacus muscle on the left hip. Prophylaxis for the DVT is contraindicated because of severe anemia and the presence of the L leg hematoma. The surgical consult does not suggest surgical intervention for the hematoma. The patient had a consult from infectious disease for pan-resistant organisms in the sputum, a consult from wound care for the sacral decubitus ulcer, and consult from hematologic oncology for severe anemia but the transfusion was delayed because of fever.

## Assessment

Significant lab values on 9/6/2020 were hemoglobin 5.3g/dL (normal 13.5g/dL-16.5g/dL), hematocrit 32.4% (normal 41%-50%), WBC 17.3 × $10^9$/L (normal 4.5 to 11.0 × $10^9$/L), albumin 3.4g/dL (normal 3.6g/dL-7g/dL), and potassium 5.4mEq/L9 (normal 3.5-5). The

vitals were as followed; T 100.6 axillary, P 124 bpm, RR 18, B/P 126/76, SPO2 99 % P-unknown because patient is unable to verbalize or point to pain scale. The patient is alert and opens eyes to voices and is responsive to pain but is unable to respond to commands and is nonverbal. The patient is on bedrest and is unable to ambulate.The cardiac assessment showed tachycardia with a HR of 124bpm, normal S1 and S2 with no abnormal heart sounds, peripheral pulses 2+ bilaterally, and capillary refill <3 seconds. The respiratory assessment showed unlabored breathing with no heave or lift and clear lung sounds to auscultation bilaterally. The patient is receiving 30% oxygen via a tracheal collar with a number eight Shirley. The skin temperature feels elevated and is dry centrally and peripherally. A stage 4 sacral decubitus ulcer and osteomyelitis were noted on the patients sacrum with a dry sterile dressing. The patient has multiple unstageable pressure wounds on right and left feet and legs. There is slight non-pitting edema noted in R upper extremity. The patient is has a peg tube 12F and is receiving ISO nutrition at 55 mL/hour, the stomach is non distended, soft, and bowel sounds are normoactive in all four quadrants. There is a mid line in the upper left arm that is patent with no inflammation or redness. There are contracture noted bilaterally in the legs and arms.

## Interventions

The client has an increased risk of infection related to inadequate primary defenses. The nursing intervention are as follows: Ensure dressings are clean and dry and provide wound care using sterile technique. Continue to monitor for signs and symptoms of infection both locally and systemically (Charlton, 2020) . Monitor lab values, specifically WBC count. Inspect stomas, wounds, and sites of invasive devices for local inflammation, redness, and change in character of wound drainage (Ackley et. al, 2020). Initiate sepsis protocol. Provide daily hygiene , mouth care, and perineal care (Ackley et. al, 2020). Reposition patient every two hours to prevent

development and worsening of pressure ulcers (Charlton, 2020). Provide isolation as indicated by hospital protocol (Mukhopadhyay, 2018).

Risk for impaired gas exchange related to immobility. Nursing interventions are as follows: observe for COCAF of sputum (Ackley et. al, 2020). Auscultate lungs and monitor for adventitious breath sounds. Suction as necessary and monitor SpO2 before and after suctioning (Marcelo et al., 2016). Position patient in a semi-fowlers position (Mukhopadhyay, 2018). Maintain ventilator settings set by respiratory therapist. Reposition every two hours.

Risk for aspiration related to tube feeding. Maintain patient in semi-fowlers or high-fowlers during and at least 30 minutes after discontinuing feeding (Metheny, 2016). Monitor respiratory rate and auscultate lung sounds. Assess stomach for signs of distention or rigidity (Metheny, 2016). Stop feeding when turning or repositioning patient. Suction frequently as needed (Marcelo et. al, 2016). Maintain adequate oral hygiene with 1-2% chlorhexidine (Mukhopadhyay, 2018).

## Long Term Plan

Monitor patient's lab values, vitals, and signs and symptoms of infection. Provide trach and wound care as directed. Administer medications as directed. Follow up with wound care for further assessment and treatment plan. Follow up with infectious disease for continuing treatment plan. Refer patient to oncology to determine cause of severe anemia. Refer patient to skilled nursing facility for continued care.

## Patient Teaching

Patient is not a candidate for patient teaching because of brain damage due to anoxic brain injury.

## Challenges Identified

Patient is at high risk for infection due to multiple breaks in skin integrity, severe anemia, PEG nutrition, and chronic use of ventilator. Patient's complete inability to move puts them at high risk of developing pressure ulcers. Patient is nonverbal and is unable to provide any self care. Patient requires intensive care that may be difficult to obtain because of lack of resources and staff (Berihu et al., 2020).

## Recommendations

Patient needs to be turned and repositioned frequently, at least every two hours. Maintaining aspiration precautions and monitoring respiratory status are important to maintain oxygenation and prevent further infection. Maintain sepsis precautions and monitor closely for signs of worsening infection and septic shock. Provide wound care as per wound consult and monitor wounds for infection. Provide trach care and suction frequently as needed.

## Evaluation

AM care, wound care, and trach care were all completed without complication. Tylenol was administered for fever; temperature lowered to 99.8 and heart rate lowered to 96BPM two hours after administering. Patiromer administered for high potassium level. Patient did not show any new signs or symptoms of infection during duration of care. PEG feeding is well tolerated and no signs of aspiration noted. Patient does not appear to be in acute pain

## Discharge Plan

Patient would be discharged when infection is resolved and vital signs/lab values are stable. Follow up care plan would be provided to skilled nursing facility.

## Summary Statement

Patient EG is a thirty-six year old male with an admitting diagnosis of anemia, fever, and suspected sepsis from a long term care skilled nursing facility. The client's history shows a

history of COVID-19, anoxic brain injury, cardiac arrest, essential hypertension, alcohol dependence and withdrawal, and liver cirrhosis. The client is quadriplegic, ventilator-dependent, receives PEG nutrition, and is nonverbal. There are multiple pressure wounds on the lower extremities and a stage IV decubitus ulcer on the sacrum with osteomyelitis. The client is at risk for infection, risk for aspiration, and risk for impaired gas exchange. Appropriate nursing interventions include preventing and monitoring for infection, ensuring turning and reposition every two hours, providing wound care, administering medications as ordered, suctioning frequently, and ensuring sepsis and aspiration precautions.

## References

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