Medications

- Vancomycin 1500mg IVPB q 8 hrs.
  - Pharm class: Glycopeptide (Jones, 2021)
  - Thera class: Antibiotic (Jones, 2021)
  - The patient is taking it due to meningitis.
  - Peak and troughs of vancomycin should be monitored frequently as well as renal function (Jones, 2021).
- Ceftriaxone 2g IVBP q 12 hrs.
  - Pharm class: Third-generation cephalosporin (Jones, 2021)
  - Thera class: Antibiotic (Jones, 2021)
  - The patient is taking it due to meningitis.
  - Monitor renal and hepatic function (Jones, 2021)
- Doxycycline 100mg IVPB q 12 hrs.
  - Pharm class: Tetracycline (Jones, 2021)
  - Thera class: Antibiotic (Jones, 2021)
  - The patient is taking it due to meningitis.
  - Monitor hepatic function and observe signs of *C. difficile* (Jones, 2021).

Demographic Data

Admitting diagnosis: Meningitis

Age of client: 16

Psychosocial Developmental Stage: Identity vs. role confusion (Ricci et al., 2021)

Cognitive Development Stage: Formal Operational (Ricci et al., 2021)

Sex: Male

Weight in kgs: 60.1 kg

Allergies: Vancomycin (Red man's syndrome)

Date of admission: 6/13/2022

Admission History

Pathophysiology

Disease process: Meningitis is an infectious disease that causes the meningeal layers surrounding and protecting the brain to become inflamed (Capriotti, 2020). Meningitis can be viral, bacterial, chemical, and fungal (Capriotti, 2020).

S/S of disease: Stiff neck, headache, photophobia, and high fever are hallmark signs of meningitis (Capriotti, 2020). Patients can also experience seizures, brain damage, ischemia of extremities, and visual or hearing losses as the disease progresses (Capriotti, 2020).

Method of Diagnosis: A lumbar puncture and a cerebrospinal fluid culture are required to diagnose meningitis (Capriotti, 2020).

Treatment of disease: If bacterial, the treatment is high-dose antibiotic therapy (Capriotti, 2020). Viral meningitis usually resolves itself, but the treatment of symptoms is required (Capriotti, 2020).

My patient: My patient had a fever, headaches, neck pain, and vomiting, all of which point to meningitis. My patient had a lumbar puncture, and his CSF culture was pending at the time of the shift. Until the result of the cultures, it is unknown if it is viral or bacterial.

The patient arrived at the Sarah Bush Lincoln emergency department (SBLED) via private auto for uncontrollable fever, headaches, neck pain, and vomiting. The headache and fever had progressively worsened over the past day, so the patient's mother took him to the emergency department. The patient's mother treated the headache and fever with Tylenol and Motrin, but the patient's condition worsened despite those interventions. While in the SBLED, the patient received a full septic workup, including blood cultures and a lumbar puncture. After the SBLED suspected meningitis, the patient was sent to Carle for further work-up, treatment, and admission.

Assessment

General	Integument	HEENT	Car					Neurological	Most recent VS (highlight if abnormal)	Pain and Pain Scale Used
The patient	The	The patient's head appeared	S1 a					The patient	**Time:** 1530	The patient
appearance was clean, neat, and well-groomed.	wounds present. He had no drains present.	displayed good extraocular movement ability when fields of gaze were tested. The patient's nose was midline and straight. The patient has good oral hygiene. The tongue appeared pink and midline with no sores. Buccal mucosa was pink and moist. The patient does not have dentures.	3+ bilaterally. The capillary refill was intact and less than 3 seconds in all extremities. No neck vein distention or edema was noted.	were bilateral, clear, and present in all lobes bilaterally.	The patient's genitals were not assessed, and he did not have an indwelling catheter.	before the assessment. The patient felt no pain or tenderness upon palpation. The abdomen had no distention, incisions, scars, wounds, or drains. The patient did not have an ostomy, nasogastric tube, or a	lower extremities were strong at 5/5 bilaterally. The patient's need for assistance is normal for his age, and he does not use assistive devices.	The speech was clear. The recent and remote memories were intact as well. The patient's developmental level was appropriate for his age.	**needs:** Room air	

Medical History

Previous Medical History: GERD

Prior Hospitalizations: Foot/soft tissue trauma/surgery (5/3-6/3/2020)

Chronic Medical Issues: N/A

Social needs: N/A

Relevant Lab Values/Diagnostics

- CSF and blood cultures pending
- WBC: 5.93 (within normal limits)
- PT: 15.4 second
  - Range: 11.7 – 13.8 seconds
  - The PT is elevated due to increased inflammation related to meningitis.
- INR: 1.2
  - Range: 0.9 – 1.1
  - The INR is elevated due to increased inflammation related to meningitis.
- Absolute monocyte: 1
  - Range: 0.18 – 0.78
  - The absolute monocyte count is elevated due to an infectious process (meningitis).
- Absolute eosinophils: 1.01
  - Range: 0.04 – 0.38
  - The absolute eosinophil count is elevated due to an infectious process (meningitis).

Active Orders

- Vital signs q 4 hrs.
  - This should be done to ensure early detection of fever.
- Neuro checks q 4 hrs.
  - This should ensure that any neurological defects related to meningitis are found early.
- Strict I&O
  - Over or under hydration while infected with meningitis can have adverse effects.

		The thyroid appeared and felt normal.				feeding tube.				

Nursing Diagnosis 1 Hyperthermia related to meningitis, as evidenced by multiple elevated temperatures (Phelps, 2020).	**Nursing Diagnosis 2** Risk for ineffective airway clearance related to meningitis as evidence by fever, neck pain, headache, and vomiting (Phelps, 2020).	**Nursing Diagnosis 3** Risk for ineffective thermoregulation related to hyperthermia as evidence by multiple elevated temperature readings (Phelps, 2020).
Rationale This was chosen because an uncontrolled fever can lead to other issues such as seizures.	**Rationale** This was chosen because if the patient's condition worsened, he might be unable to protect his airway.	**Rationale** This was chosen because if the patient cannot correctly thermoregulate, there will be various adverse effects.
Interventions **Intervention 1:** Administration of Tylenol as needed for fever **Intervention 2:** Vital sign checks every four hours	**Interventions** **Intervention 1:** Neuro checks every four hours **Intervention 2:** Vital sign checks every four hours	**Interventions** **Intervention 1:** Vital sign checks every four hours **Intervention 2:** Administration of Tylenol as needed for fever
Evaluation of Interventions Tylenol appeared to be helping the fever because the patient was afebrile during the shift, and the vital sign checks made it so the staff would have noticed early if the patient was febrile.	**Evaluation of Interventions** The patient remained stable throughout the shift, however, had his condition deteriorated, it would have been caught promptly by staff because of these interventions.	**Evaluation of Interventions** The patient's temperature was controlled throughout the shift but had the patient developed a fever, it would have been promptly recognized and treated.

References (3):

Capriotti, T. (2020). *Davis advantage for pathophysiology: Introductory concepts and clinical perspectives*. F.A. Davis.

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

Phelps, L.L. (2020). *Sparks and Taylor's nursing diagnosis reference manual* (11th ed.). Wolters Kluwer.

Ricci, S. S., Kyle, T., & Carman, S. (2021). *Maternity and pediatric nursing* (4th ed.). Wolters Kluwer.