Lab Values/Diagnostics- Normal values obtained from Cerner.

- Lactic acid-3.9 (H)
  - Normal: 0.5-1 mmol/L
  - Lactic acid may be increased with infection.
- WBC- 26.23 (H)
  - Normal: 4.0-11.7 k/mcL
  - Increased due to infection.
- Absolute neutrophils - 12.67 (H)
  - Normal: 2.5-6 cells per liter
  - Increased due to infection
- Absolute lymphocytes - 12.88 (H)
  - Normal - 1-4.8 per microliter of blood
  - Increased due to infection
- Absolute eosinophils - 0.00 (L)
  - Normal - 30-350 cells per microliter of blood
  - Absolute eosinophils may be low due to bloodstream infection.
- C-reactive protein - 5.37 (H)
  - Normal - <3.0 per microliter of blood
  - An increase in CRP can be a marker of inflammation and can be caused by infection.
- Procalcitonin - 5.81 (H)
  - Normal - <0.1 ng/mL
  - Can be increased due to serious bacterial infection.
- Glucose - 116 (H)
  - Normal - <100 mg/dL
  - An increased glucose level can be caused by stress. An increased glucose level can also be the result of using sugar water to manage pain level in infants.
- Lymphocytes - 70 (H)
  - Normal - 40-60
  - Increased lymphocytes can be an indication of infection or inflammation.
- Alkaline phosphatase - 452 (H)
  - Normal -
  - Increase alkaline phosphatase may be caused by bacterial infection.

(Capriotti, 2021)

Demographic Data

Admitting diagnosis: Febrile seizures

Age of client: 11 months

Sex: Male

Weight in kgs: 12.4 kg

Allergies: NKA

Date of admission: 11/11/21

Psychosocial Developmental Stage:

Trust vs. mistrust

Cognitive Development Stage:

Sensorimotor

Medications

- Acetaminophen (Tylenol)
  - No salicylate, para-aminophenol derivative, Antipyretic,nonopioid analgesic
  - Use: Mild pain relief or fever >100.4 F
  - Monitor patient's pain level and characteristics as well as hepatic function prior to administration.
- Ibuprofen (Advil)
  - Non-steroidal anti-inflammatory, analgesic, anti-inflammatory, antipyretic
  - Use: Mild pain relief or fever >100.4 F
  - Assess renal function before administration of this medication. Assess patient for signs of active bleeding.

(Jones & Bartlett Learning, 2020).

Admission History

On 11/10 the patient's mother noticed he was shaking, seizing, and had a fever of 104°F. Patient was taken by ambulance to the Danville emergency department. Patient was transferred to Carle hospital on 11/11. Patient presented with fever and full body chills. Patient is currently afebrile and experiencing no other symptoms. There are no aggressors for the infant's symptoms. Patient's mother attempted to relieve his fever with a cold wash cloth. Patient was treated with ceftriaxone on 11/11.

Pathophysiology

Disease process: Febrile seizures occur when a, typically young, child has seizures or convulsions brought on by fever. The fever is commonly brought on by a viral infection but can also be caused by a bacterial infection. The peripheral infection causes an immune system reaction of producing an inflammatory response which induces a fever and increases the core temperature of the body (Hinkle & Cheever, 2018).

S/S of disease: Signs of a febrile seizure included the following: fever higher than 100.4F, loss of consciousness, and shaking or jerking of the extremities (Hinkle & Cheever, 2018).

Method of Diagnosis: Febrile seizures can be diagnosed with a physical exam, temperature, MRI, and an electroencephalogram. Blood tests, urine tests, and a lumbar puncture may be used to determine the cause of the infection (Mayo Foundation for Medical Education and Research, 2021).

Treatment of disease: Febrile seizures may be treated by using anticonvulsants. However, the majority of children do not need medication for a febrile seizure. The infection that is causing the fever is often treated with oral or intravenous antibiotics (Hinkle & Cheever, 2018).

Medical History

Previous Medical History: N/A

Prior Hospitalizations: N/A

Chronic Medical Issues: N/A

Social Needs: Patient's mother and father both active and participate in patient's care.

Active Orders

- Vitals every 4 hours- to monitor the patient's status for any changes.
- Strict intake and output - To monitor fluid balance.
- Acetaminophen PRN - for mild pain relief.
- Ibuprofen PRN - for mild pain relief and for fevers > 100.4 F.
- Pulse oximeter. Keep O2 sat >92% - Monitor patient's oxygen level and ensure it does not go dangerously low.
- Regular diet - patient does not need any dietary restrictions.

Assessment										
General	**Integument**	**HEENT**	**Cardiovascular**	**Respiratory**	**Genitourinary**	**Gastrointestinal**	**Musculoskeletal**	**Neurological**	**Most recent VS (highlight if abnormal)**	**Pain and Pain Scale Used**
Patient is alert and responsive. No distress. Appearance is appropriate.	Skin is warm, dry, intact, and appropriate for ethnicity. Patient has an elastic skin turgor. No rashes, bruises or wounds. No IV present.	Symmetrical skull and face, bilaterally round head with no contusions or abnormalities No tracheal deviation, thyroid rises and falls with swallowing, lymph nodes non palpable Tympanic membrane pearly grey, ears are bilateral on the head, no auditory impairment Sclera white, no redness, no discharge. No deviated septum, no polyps, nasal airway patent, no drainage. Mucous membranes are moist, pink, and firm. Rise and fall of the soft palate was observed and tonsils and uvula pink and moist.	S1 and S2 heart sounds heard upon auscultation. Regular and strong pulse, present in all extremities. Capillary refill is less than two seconds.	Breath sounds were clear and equal, noted bilaterally in all lobes. No use of accessory muscles observed. Lung aeration is equal.	Patient voiding in diaper clear, yellow urine. No redness or swelling of genitals noted.	Active bowel sounds in all four quadrants. Last BM on 11/12. Normal diet at home. Normal diet in hospital. No pain with palpation, no masses detected. No distention, no scars, no drains, no incisions. Patient weighs 12.4 kg.	Nail beds smooth without pits or grooves, extremities warm and red. Extremity motor function is fluid. Active ROM. Patient is able to crawl.	Patient cognition and mental status is appropriate for age. Patient is alert, awake, and responsive.	Time: 0830 Temperature: 97.5 F Route: Axillary RR: 35 HR: 114 BP and MAP: 124 mm Hg/ 75 mmHg MAP (94 mmHg) Oxygen saturation: 98% on room air Oxygen needs: None at time of assessment	r-FLACC behavioral pain scale Patient scored a 0 on the r-FLACC behavioral pain scale.

Nursing Diagnosis 1 Hyperthermia related to antigens or microorganisms that cause inflammation as evidenced by patient presenting to the emergency department with a 104 F fever	**Nursing Diagnosis 2** Risk for injury related to febrile seizure as evidenced by shaking and tremors.	**Nursing Diagnosis 3** Deficient knowledge related to lack of information as evidenced by expressed request for information about the cause of the patient's febrile seizures and his treatment plan.
Rationale Febrile seizures occur with hyperthermia. It is important to ensure the patient is afebrile to prevent more febrile seizures.	**Rationale** I chose this nursing diagnosis because a seizure can cause the patient to experience hypoxemia, aspiration, and injury from falling out of his crib or hitting his head or extremities on his surroundings.	**Rationale** The patient's parents were asking questions about what caused the infant's febrile seizures as well as how to prevent them in the future. The parents were also concerned with treatment options for their child.
Interventions **Intervention 1:** Monitor the infant's temperature frequently. **Intervention 2:** Administer antipyretic as indicated.	**Interventions** **Intervention 1:** Assess skin for pallor, flushed, or cyanosis. Monitor the patient's respiratory rate, depth, and signs of respiratory distress. **Intervention 2:** Avoid restraining the patient or putting anything in his mouth. Ensure the patient's surroundings are safe from potential hazards.	**Interventions** **Intervention 1:** Educate the parents that a febrile seizure is a symptom of infection. Educate the parents on how to prevent and treat infection. **Intervention 2:** Inform parents about the need for laboratory studies to identify the virus of bacteria that caused the infection. Educate the parents on treatment options for this infection as well as the treatment option currently being implemented.
Evaluation of Interventions The patient's temperature was assessed every four hours. The infant's temperature remained below 100.4 F. No administration of antipyretics was needed.	**Evaluation of Interventions** Patient's skin presented as warm and a usual color for ethnicity. Capillary refill was less than two seconds. Patient's respiratory rate remained below thirty breaths per minute. No signs of respiratory distress were present. Patient was not restrained. Patient's surroundings were made safe and without hazards.	**Evaluation of Interventions** Patient's mother and father were educated on potential causes of febrile seizures as well as how to prevent them in the future. Parents were also educated on treatment options for their child. The teach back method was used to ensure a thorough understanding of the teaching

References (3) (APA):

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

Hinkle, J. L. &. Cheever, K. H. (2018). *Brunner & Suddarth's textbook of medical-surgical nursing* (14th ed.). Wolters Kluwer

Jones and Bartlett Learning. (2020). *Nurse's drug handbook* (19th ed.). Jones and Bartlett Publishers.

Mayo Foundation for Medical Education and Research. (2021, February 24). *Febrile seizure*. Mayo Clinic. Retrieved November 16, 2021, from https://www.mayoclinic.org/diseases-conditions/febrile-seizure/symptoms-causes/syc-20372522.